

OM protein - protein search, using sw model

Run on: November 19, 2004, 16:34:27 ; Search time 207.681 Seconds  
(without alignments)  
74.274 Million cell updates/sec

Title: US-09-830-954A-3  
Perfect score: 222  
Sequence: 1 DAEFRHDSGYEVHHQKLVFF.....VGSNKGAIIGLMVGGVVIAT 43

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2002273 seqs, 358729299 residues

Total number of hits satisfying chosen parameters: 2002273

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_Geneseq\_23Sep04:\*  
1: geneseqp1980s:\*  
2: geneseqp1990s:\*  
3: geneseqp2000s:\*  
4: geneseqp2001s:\*  
5: geneseqp2002s:\*  
6: geneseqp2003as:\*  
7: geneseqp2003bs:\*  
8: geneseqp2004s:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	%		DB	ID	Description
		Query	Match Length			
1	222	100.0	43	2	AAR54759	Aar54759 Beta amyl
2	222	100.0	43	2	AAR60367	Aar60367 Beta-amyl
3	222	100.0	43	2	AAR61328	Aar61328 Amyloid b
4	222	100.0	43	2	AAR64165	Aar64165 Beta amyl
5	222	100.0	43	2	ADD11650	Add11650 Human bet
6	222	100.0	43	2	AAR95673	Aar95673 A-beta pr
7	222	100.0	43	2	AAW93371	Aaw93371 Human bet
8	222	100.0	43	2	AAY17758	Aay17758 Beta-amyl
9	222	100.0	43	2	AAW51316	Aaw51316 Natural b

10	222	100.0	43	2	AAy42955	Aay42955	Beta-amyl
11	222	100.0	43	2	AAB21216	Aab21216	Beta-amyl
12	222	100.0	43	2	AAW71378	Aaw71378	Beta-amyl
13	222	100.0	43	2	AAW40129	Aaw40129	Human amy
14	222	100.0	43	2	AAW89362	Aaw89362	Beta-amyl
15	222	100.0	43	3	AAy88390	Aay88390	Beta-amyl
16	222	100.0	43	3	AAy56102	Aay56102	Natural b
17	222	100.0	43	3	AAB27020	Aab27020	Beta-amyl
18	222	100.0	43	3	AAB15372	Aab15372	Human bet
19	222	100.0	43	4	ABB07901	Abb07901	Beta-amyl
20	222	100.0	43	4	AAB84428	Aab84428	Partial s
21	222	100.0	43	4	AAB91811	Aab91811	Amyloid b
22	222	100.0	43	4	AAB91778	Aab91778	Amyloid b
23	222	100.0	43	4	AAG78791	Aag78791	Human bet
24	222	100.0	43	4	AAB48344	Aab48344	Beta-amyl
25	222	100.0	43	4	AAB81193	Aab81193	Beta-amyl
26	222	100.0	43	4	AAB98986	Aab98986	Beta-amyl
27	222	100.0	43	4	AAB47108	Aab47108	Biotinyla
28	222	100.0	43	4	AAE12508	Aae12508	Beta-amyl
29	222	100.0	43	5	ABB98516	Abb98516	Human bet
30	222	100.0	43	5	ABG71001	Abg71001	Natural l
31	222	100.0	43	5	AAO18457	Aao18457	Human bet
32	222	100.0	43	5	ABB05149	Abb05149	Beta amyl
33	222	100.0	43	5	AAU98701	Aau98701	Human amy
34	222	100.0	43	5	AAM50862	Aam50862	Beta-amyl
35	222	100.0	43	5	ABB78007	Abb78007	Amino aci
36	222	100.0	43	5	AAE26265	Aae26265	Human bet
37	222	100.0	43	6	AAO16064	Aao16064	Neurologi
38	222	100.0	43	6	ABG73456	Abg73456	Natural b
39	222	100.0	43	6	ABU08505	Abu08505	Human amy
40	222	100.0	43	6	ABP96145	Abp96145	Human Abe
41	222	100.0	43	6	ABR39273	Abr39273	Human Amy
42	222	100.0	43	6	ABP97881	Abp97881	Amino aci
43	222	100.0	43	6	ABU62720	Abu62720	Beta-amyl
44	222	100.0	43	7	ADC66003	Adc66003	Human A(b
45	222	100.0	43	7	ADI53072	Adi53072	Amyloid-b

# ALIGNMENTS

## RESULT 1

AAR54759

ID AAR54759 standard; peptide; 43 AA.

XX

AC AAR54759;

XX

DT 25-MAR-2003 (revised)

DT 30-NOV-1994 (first entry)

XX

DE Beta amyloid peptide.

XX

KW Beta amyloid peptide; amyloid plaques; Alzheimer's disease; lesion;

KW brain; senility; dementia; detection; diagnosis.

XX

OS Homo sapiens.

XX

PN WO9410569-A1.  
 XX  
 PD 11-MAY-1994.  
 XX  
 PF 01-SEP-1993; 93WO-US008264.  
 XX  
 PR 26-OCT-1992; 92US-00965972.  
 XX  
 PA (SCHE/) SCHENK D B.  
 PA (SCHL/) SCHLOSSMACHER M G.  
 PA (SELK/) SELKOE D J.  
 PA (SEUB/) SEUBERT P A.  
 PA (VIGO/) VIGO-PELFREY C.  
 XX  
 PI Schenk DB, Schlossmacher MG, Selkoe DJ, Seubert PA;  
 PI Vigo-Pelfrey C;  
 XX  
 DR WPI; 1994-167654/20.  
 XX  
 PT Detecting soluble beta-amyloid peptide concns. e.g. for diagnosing and  
 PT assessing progression of Alzheimer's disease - by exposing cultured cells  
 PT to test cpd. to determine effect of cpd. on produced soluble beta-amyloid  
 PT peptide.  
 XX  
 PS Disclosure; Page 10; 55pp; English.  
 XX  
 CC Beta amyloid peptide is the principal chemical constituent of amyloid  
 CC plaques, lesions found on the brains of Alzheimer's disease patients. The  
 CC ability to detect beta amyloid peptide in fluid samples provides a means  
 CC of diagnosing Alzheimer's disease. (Updated on 25-MAR-2003 to correct PN  
 CC field.) (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-  
 CC 2003 to correct PI field.)  
 XX  
 SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

# RESULT 2

AAR60367

ID AAR60367 standard; peptide; 43 AA.

XX

AC AAR60367;

XX

DT 25-MAR-2003 (revised)

DT 15-MAR-1995 (first entry)

XX

DE Beta-amyloid (1-43).

XX

KW Amyloid precursor protein; APP; Alzheimer's disease; beta-amyloid;

KW anti-beta-amyloid antibody; diagnosis.

XX  
 OS Homo sapiens.  
 XX  
 PN WO9417197-A1.  
 XX  
 PD 04-AUG-1994.  
 XX  
 PF 24-JAN-1994; 94WO-JP000089.  
 XX  
 PR 25-JAN-1993; 93JP-00010132.  
 PR 05-FEB-1993; 93JP-00019035.  
 PR 16-NOV-1993; 93JP-00286985.  
 PR 28-DEC-1993; 93JP-00334773.  
 XX  
 PA (TAKE ) TAKEDA CHEM IND LTD.  
 XX  
 PI Suzuki N, Odaka A, Kitada C;  
 XX  
 DR WPI; 1994-264110/32.  
 XX  
 PT Antibodies recognising specific parts of beta-amyloid - can be used for  
 PT diagnosis of diseases implicating beta-amyloid, such as Alzheimer's  
 PT disease.  
 XX  
 PS Disclosure; Page 83; 116pp; Japanese.  
 XX  
 CC Antibodies which recognise specific subfragments of the beta-amyloid  
 CC protein are claimed. Specifically, the antibodies (which are pref.  
 CC monoclonal) recognise residues 1-16 and/or 1-28 from the N-terminal  
 CC portion of beta-amyloid or they recognise residues 25-35 or 35-43 from  
 CC the C-terminal portion. The antibodies are useful for assaying beta-  
 CC amyloid and its derivatives for diagnosis of Alzheimer's disease.  
 CC (Updated on 25-MAR-2003 to correct PN field.)  
 XX  
 SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 ||||||||||||||||||||||||||||||||||||||||||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

# RESULT 3

AAR61328

ID AAR61328 standard; protein; 43 AA.

XX

AC AAR61328;

XX

DT 25-MAR-2003 (revised)

DT 21-APR-1995 (first entry)

XX

DE Amyloid beta-protein, ABP.

XX

KW Amyloid beta-protein; ABP; Tau-protein kinase I enzyme; TPK-I;

KW Alzheimer's disease.  
 XX  
 OS Synthetic.  
 XX  
 PN EP616032-A2.  
 XX  
 PD 21-SEP-1994.  
 XX  
 PF 01-MAR-1994; 94EP-00103057.  
 XX  
 PR 02-MAR-1993; 93JP-00041160.  
 PR 22-MAR-1993; 93JP-00085143.  
 PR 02-AUG-1993; 93JP-00191246.  
 XX  
 PA (MITU ) MITSUBISHI KASEI CORP.  
 PA (MITU ) MITSUBISHI CHEM CORP.  
 XX  
 PI Takashima A, Hoshino T, Imahori K, Saito K, Shiratsuchi A;  
 PI Sato S;  
 XX  
 DR WPI; 1994-287181/36.  
 XX  
 PT Newly isolated tau-protein kinase I enzyme - with specificity for tau-  
 PT protein providing means for prevention and treatment of Alzheimer's  
 PT disease.  
 XX  
 PS Example 1; Page 22; 30pp; English.  
 XX  
 CC Amyloid beta-protein (ABP) is the main component of senile plaques in  
 CC Alzheimer's disease. ABP was used to demonstrate the protective  
 CC properties of anti-sense TPK-I oligonucleotides (AAQ67461 and AAQ67462)  
 CC on hippocampus cells dosed with ABP. (Updated on 25-MAR-2003 to correct  
 CC PN field.) (Updated on 25-MAR-2003 to correct PA field.)  
 XX  
 SQ Sequence 43 AA;  
  
 Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
  
 QY 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 ||||||||||||||||||||||||||||||||||||||||||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

#### RESULT 4

AAR64165

ID AAR64165 standard; peptide; 43 AA.

XX

AC AAR64165;

XX

DT 25-MAR-2003 (revised)

DT 02-AUG-1995 (first entry)

XX

DE Beta amyloid protein.

XX

KW beta amyloid protein; mutant; variant; detection; amyloid deposition;

KW diagnosis; amyloidosis associated disease; Alzheimer's disease;  
 KW Down's syndrome.  
 XX  
 OS Synthetic.  
 XX  
 PN WO9428412-A1.  
 XX  
 PD 08-DEC-1994.  
 XX  
 PF 27-MAY-1994; 94WO-US005809.  
 XX  
 PR 28-MAY-1993; 93US-00069010.  
 XX  
 PA (MIRI-) MIRIAM HOSPITAL.  
 XX  
 PI Marotta CA, Majocha RE;  
 XX  
 DR WPI; 1995-023013/03.  
 XX  
 PT Amyloid binding composition comprising labelled amyloid protein and  
 PT carrier - useful for in vivo imaging of amyloid deposits, for diagnosing  
 PT Alzheimer's disease and Down's Syndrome.  
 XX  
 PS Claim 5; Page 42; 58pp; English.  
 XX  
 CC AAR64165 shows the amino acid sequence of the beta amyloid protein. The  
 CC protein binds amyloid and is useful for in vivo imaging of amyloid  
 CC deposits and hence diagnosis of an amyloidosis-associated disease, such  
 CC as Alzheimer's disease or Down's syndrome. AAR64165-69 show specific  
 CC variants generated from this generic sequence with addition amino acids.  
 CC (Updated on 25-MAR-2003 to correct PN field.)  
 XX  
 SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 ||||||||||||||||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

# RESULT 5

ADD11650

ID ADD11650 standard; protein; 43 AA.

XX

AC ADD11650;

XX

DT 01-JAN-2004 (first entry)

XX

DE Human beta-amyloid 1-43 (beta1-43).

XX

KW neurotoxic effect; beta-amyloid peptide; neurotoxicity inhibitor;  
 KW amyloidogenic amylin; beta\_2-microglobulin; amylin; Alzheimer's disease;  
 KW Down's syndrome; beta-amyloid neurotoxicity assay; human;  
 KW beta-amyloid 1-43; beta1-43.

XX  
 OS Homo sapiens.  
 XX  
 PN EP646792-A1.  
 XX  
 PD 05-APR-1995.  
 XX  
 PF 17-AUG-1994; 94EP-00306053.  
 XX  
 PR 19-AUG-1993; 93US-00109782.  
 XX  
 PA (ELIL ) LILLY & CO ELI.  
 PA (ATHE-) ATHENA NEUROSCIENCES INC.  
 XX  
 PI May PC, Rydel RE;  
 XX  
 DR WPI; 1995-132760/18.  
 XX  
 PT Assay for effectiveness of agents used in the treatment of Alzheimer's  
 PT disease - by incubating potential inhibitor of neurotoxicity with amylin  
 PT or beta-2-microglobulin and measuring neurotoxic props. of mixt.  
 XX  
 PS Disclosure; SEQ ID NO 1; 14pp; English.  
 XX  
 CC The invention describes a method for assaying the effectiveness of agents  
 CC useful for ameliorating the neurotoxic effects of a condition associated  
 CC with the accumulation of a beta-amyloid peptide. The method comprises:  
 CC (a) incubating potential inhibitors of neurotoxicity with an  
 CC amyloidogenic amylin or beta\_2-microglobulin; (b) measuring the  
 CC neurotoxic properties of each amylin or beta\_2-microglobulin/potential  
 CC inhibitor mixture; and (c) detecting reduction in the neurotoxicity  
 CC relative to a control. The preferred amyloidogenic amylin is human  
 CC amylin. The method is especially for assessing the ability of an agent to  
 CC ameliorate the neurotoxic effects of Alzheimer's disease or Down's  
 CC syndrome. The method provides a more consistent beta-amyloid  
 CC neurotoxicity assay and is more sensitive and covers a broader range.  
 CC This is the amino acid sequence of human beta-amyloid 1-43 (beta1-43).  
 XX  
 SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 ||||||||||||||||||||||||||||||||||||||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

RESULT 6  
 AAR95673  
 ID AAR95673 standard; peptide; 43 AA.  
 XX  
 AC AAR95673;  
 XX  
 DT 24-FEB-1997 (first entry)  
 XX

DE A-beta protein (43 amino acid version).  
 XX  
 KW A-beta protein; beta-amyloid precursor protein; APP; Alzheimer's disease;  
 KW diagnosis; monitor; amyloid plaque; senile.  
 XX  
 OS Homo sapiens.  
 XX  
 PN WO9615452-A1.  
 XX  
 PD 23-MAY-1996.  
 XX  
 PF 13-NOV-1995; 95WO-US014659.  
 XX  
 PR 14-NOV-1994; 94US-00339141.  
 PR 07-APR-1995; 95US-00419008.  
 XX  
 PA (ATHE-) ATHENA NEUROSCIENCES INC.  
 XX  
 PI Seubert PA, Vigo-Pelfrey C, Schenk DB, Barbour R;  
 XX  
 DR WPI; 1996-260003/26.  
 XX  
 PT Diagnosis and monitoring of Alzheimer's disease - by detecting abnormally  
 PT low concentration of A-beta peptide extending beyond amino acid 41 in  
 PT cerebrospinal fluid.  
 XX  
 PS Disclosure; Page 16; 57pp; English.  
 XX  
 CC The "amyloid-beta peptide" or A-beta is an approx. 4.2 kD protein which,  
 CC in the brains of Alzheimer's disease, Down's Syndrome, HCHWA-D and some  
 CC normal aged subjects, forms the subunit of amyloid filaments comprising  
 CC the senile (amyloid) plaques and the amyloid deposits in small cerebral  
 CC and meningeal blood vessels. A-beta is an approx. 39-43 amino acid  
 CC fragment of a large membrane-spanning glycoprotein, referred to as the  
 CC beta-amyloid precursor protein (APP), encoded by a gene on the long arm  
 CC of human chromosome 21. Detecting the amt. of A-beta is useful in  
 CC diagnosis and monitoring of Alzheimer's disease, when taken together with  
 CC other clinical symptoms. The present sequence is a 43 amino acid version  
 CC of A-beta  
 XX  
 SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 ||||||||||||||||||||||||||||||||||||||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

RESULT 7  
 AAW93371  
 ID AAW93371 standard; protein; 43 AA.  
 XX  
 AC AAW93371;  
 XX



DT 28-MAY-1999 (first entry)  
XX  
DE Human beta-amyloid polypeptide.  
XX  
KW Cathepsin Y; human; beta-amyloid peptide; BAP; secretion; inhibitor;  
KW protease; carboxypeptidase; aliphatic C-terminal amino acid; diagnostic;  
KW glycoprotein; cerebral deposition; pathogenesis; Alzheimer's disease;  
KW detection; amyloid plaque; angiopathy; brain; Trisomy 21; amyloidosis;  
KW Down's syndrome; hereditary cerebral haemorrhage.  
XX  
OS Homo sapiens.  
XX  
PN WO9639194-A1.  
XX  
PD 12-DEC-1996.  
XX  
PF 26-APR-1996; 96WO-US006211.  
XX  
PR 06-JUN-1995; 95US-00467607.  
PR 06-JUN-1995; 95US-00469362.  
XX  
PA (ATHE-) ATHENA NEUROSCIENCES INC.  
XX  
PI Tung JS, Sinha S, Mcconlogue L, Tatsuno G, Anderson J, Semko CMF;  
PI Chrysler S;  
XX  
DR WPI; 1997-042872/04.  
XX  
PT Acylamino and acyl:peptido:amino alcohol and aldehyde derivs. - inhibit  
PT beta-amyloid peptide prodn. in cells, use in Alzheimer's disease, also  
PT prepn. of cathepsin Y and nucleic acid encoding for it.  
XX  
PS Disclosure; Page 11; 90pp; English.  
XX  
CC This invention describes the inhibition of beta-amyloid peptide  
CC production in cells is effected by administration of an acylamino or  
CC acylpeptidoamino alcohol or aldehyde derivative of formula R1(X)m--Y--NR-  
CC -CHR2-[CONR10-CHR3]n-R4 where R and R10 = H or 1-6C alkyl; or R and R2  
CC together, and/or R10 and R3 together complete a 4-10C ring structure; R1  
CC = (a) 1-4C alkyl substd. by 1-5 substits. chosen from 6-10C aryl (opt.  
CC substd. by 1-3 of 1-6C alkyl, 1-6C alkoxy, 6-10C aryl, 6-10C aryloxy, OH,  
CC cyano, halo and amino), 3-8C cycloalkyl or Het, in which the substd.  
CC alkyl gp. is opt. further substd. by 1 or 2 of OH; (b) 2-4C alkenyl  
CC substd. by 1-4 substits. as for 1-4C alkyl above; (c) 6-10C aryl (opt.  
CC substd. by 1-3 substits. as for alkyl above), (d) fluorenyl or (e) Het;  
CC Het = 3-14C heterocyclyl contg. 1-3 N, O or S heteroatoms; R2 and R3 = D-  
CC or L- amino acid side chains of at least 2C atoms, excluding prolyl side  
CC chain; R4 = COCH=N2, CH2OH, C=NOH or COR5; R5 = H, 1-6C alkyl (opt.  
CC contg. 1 or 2 halogen atoms), 1-6C alkoxy, NR6R7 or N(Me)OMe; R6 and R7 =  
CC H or 1-6C alkyl; X = O, NR9 or S; R9 = H, 1-6C alkyl or 6-10C aryl; Y =  
CC CO or CS; m = 0 or 1; and n = 0-2; provided that (i) when R1 = 1-  
CC naphthyl, R2 = CHMe2 (L-isomer), R3 = benzyl (L-isomer), Y = CO, m = 0  
CC and n = 1, then R4 (sic) is not N(Me)OMe; (ii) when R1 = CHPh2, R2 = p-  
CC benzyloxybenzyl (L-isomer), Y = CO, and m = n = 0, then R4 (sic) is not  
CC N(Me)OMe; and (iii) when R1 = PhCH=CPh, Y = CO, R2 = benzyl (L-isomer)  
CC and m = n = 0, then R4 (sic) is not N(Me)OMe. Cathepsin Y is a 31 kD  
CC carboxypeptidase with particular activity for aliphatic C-terminal amino

CC acids. It is involved in the generation of beta-amyloid protein (BAP)  
 CC from its precursor glycoprotein. Cerebral deposition of BAP plays a key  
 CC role in pathogenesis of Alzheimer's disease (AD), and its detection can  
 CC precede openly apparent symptoms of AD by years or more. Amyloid plaques  
 CC and angiopathy are also present in the brain in those having Trisomy 21  
 CC (Down's syndrome) and hereditary cerebral haemorrhage with amyloidosis of  
 CC Dutch type (HCHWA-D). The inhibitors are of use in inhibiting such plaque  
 CC deposition and in treating AD. The cathepsin Y can be used, by virtue of  
 CC its carboxypeptidase activity, in screening for BAP prodn. inhibitors,  
 CC and, more widely, as a general C-terminal protease in a variety of  
 CC chemical and biological systems. Conversely, assay of cathepsin Y in body  
 CC fluid can be used diagnostically to evaluate the future risk of  
 CC developing AD. The nucleic acid can be used to probe specifically for  
 CC presence of cathepsin Y RNA or DNA in tissues or cloned libraries. It can  
 CC also be used for expression of recombinant cathepsin Y, by transfection  
 CC of a host cell

XX

SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

# RESULT 8

AAY17758

ID AAY17758 standard; peptide; 43 AA.

XX

AC AAY17758;

XX

DT 10-AUG-1999 (first entry)

XX

DE Beta-amyloid peptide.

XX

KW Beta-amyloid peptide; beta-amyloid precursor protein; APP;

KW membrane spanning glycoprotein; Alzheimer's disease.

XX

OS Homo sapiens.

XX

PN WO9822493-A2.

XX

PD 28-MAY-1998.

XX

PF 20-NOV-1997; 97WO-US018704.

XX

PR 22-NOV-1996; 96US-00755334.

XX

PA (ATHE-) ATHENA NEUROSCIENCES INC.

PA (ELIL ) LILLY & CO ELI.

XX

PI Audia JE, Folmer BK, John V, Latimer LH, Nissen JS, Porter WJ;

PI Thorsett ED, Wu J;

XX

DR WPI; 1998-322359/28.  
 XX  
 PT New and known aryl or hetero-aryl amino acid derivatives - useful for  
 PT inhibiting beta-amyloid peptide release and/or its synthesis and treating  
 PT Alzheimer's disease.  
 XX  
 PS Disclosure; Page 19; 131pp; English.  
 XX  
 CC The present invention describes a composition comprising an inert carrier  
 CC and an N-(aryl or heteroaryl) amino acid derivative e.g. N-[N-(3,4-  
 CC dichlorophenyl)alanyl] valine methyl ester. The composition can be used  
 CC for inhibiting beta-amyloid peptide release and/or its synthesis in a  
 CC cell, for preventing the onset of Alzheimer's disease and for treating  
 CC Alzheimer's disease in order to inhibit further deterioration. The dosage  
 CC is 0.1-500 mg/kg/day orally, rectally, transdermally, subcutaneously or  
 CC intravenously. The present sequence represents the beta-amyloid peptide  
 XX  
 SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

# RESULT 9

AAW51316

ID AAW51316 standard; peptide; 43 AA.

XX

AC AAW51316;

XX

DT 14-AUG-1998 (first entry)

XX

DE Natural beta-amyloid peptide fragment.

XX

KW Natural beta-amyloid peptide; aggregation; D-amino acid;

KW Alzheimer's disease; beta-amyloidosis.

XX

OS Homo sapiens.

XX

PN WO9808868-A1.

XX

PD 05-MAR-1998.

XX

PF 27-AUG-1997; 97WO-US015166.

XX

PR 27-AUG-1996; 96US-00703675.

PR 21-JUL-1997; 97US-00897342.

XX

PA (PRAE-) PRAECIS PHARM INC.

XX

PI Findeis MA, Gefter ML, Musso G, Signer ER, Wakefield J;

PI Molineaux S, Chin J, Lee J, Kelley M, Komar-Panicucci S;

PI Arico-Muendel CC, Phillips K, Hayward NJ;

XX  
DR WPI; 1998-216936/19.  
XX  
PT Peptide compounds which are preferably based on beta-amyloid peptide(s) -  
PT are useful in treatment of disorders related to beta-amyloidosis,  
PT especially Alzheimer's disease.  
XX  
PS Disclosure; Page 8; 92pp; English.  
XX  
CC The invention relates to peptides that modulate natural beta-amyloid  
CC peptide aggregation. The modulators of the invention comprise a peptide  
CC preferably based on a beta-amyloid peptide, that is comprised entirely of  
CC D-amino acids. Preferably the peptide comprises 3-5 D-amino acid residues  
CC and includes at least two D-amino acid residues independently selected  
CC from the group consisting of D-leucine, D-phenylalanine and D-valine.  
CC Preferred amino-terminal modifying groups include cyclic, heterocyclic,  
CC polycyclic and branched alkyl groups. Preferred carboxy-terminal  
CC modifying groups include an amide group, an alkyl amide group, an aryl  
CC amide group or a hydroxy group. The peptides may be used to treat  
CC disorders associated with beta-amyloidosis, especially Alzheimer's  
CC disease. They may also be used in methods for detecting the presence of  
CC beta-amyloid peptides in biological samples. The present sequence  
CC represents the 43 amino acid long form of natural beta-amyloid peptide  
XX  
SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
Best Local Similarity 100.0%; Pred. No. 5e-25;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
|||||  
Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

# RESULT 10

AAY42955

ID AAY42955 standard; protein; 43 AA.

XX

AC AAY42955;

XX

DT 02-JAN-2000 (first entry)

XX

DE Beta-amyloid precursor protein.

XX

KW Beta-amyloid precursor protein protein; APP; release inhibition;

KW Alzheimer's disease.

XX

OS Homo sapiens.

XX

PN US5965614-A.

XX

PD 12-OCT-1999.

XX

PF 21-NOV-1997; 97US-00975977.

XX

PR 22-NOV-1996; 96US-00755444.

PR 22-NOV-1996; 96US-0104593P.  
 XX  
 PA (ATHE-) ATHENA NEUROSCIENCES INC.  
 XX  
 PI Folmer BK, Audia JE, Latimer LH, Nissen JS, Reel JK, Thorsett ED;  
 PI Whitesitt CA, John V;  
 XX  
 DR WPI; 1998-348125/30.  
 XX  
 PT N-Aryl- and N-hetero-aryl-amino acid ester(s) and amidoxime ester(s) -  
 PT are inhibitors of beta-amyloid peptide synthesis and/or release, used in  
 PT treating Alzheimer's disease.  
 XX  
 PS Disclosure; Col 49; 29pp; English.  
 XX  
 CC New chemical compounds are disclosed which inhibit the cellular release  
 CC and/or synthesis of beta-amyloid peptide (the present sequence). The  
 CC compounds are N-(aryl or heteroaryl) amino acid ester derivatives, of  
 CC which N-(3,4-dichlorophenyl)alanine ethyl ester is a specific example.  
 CC These compounds can be used for the treatment and prevention of  
 CC Alzheimer's disease  
 XX  
 SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 ||||||||||||||||||||||||||||||||||||||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

RESULT 11  
 AAB21216  
 ID AAB21216 standard; peptide; 43 AA.  
 XX  
 AC AAB21216;  
 XX  
 DT 11-JAN-2001 (first entry)  
 XX  
 DE Beta-amyloid peptide.  
 XX  
 KW Beta-amyloid peptide; membrane-spanning glycoprotein; analgesic;  
 KW nicotinic agonist; beta-amyloid precursor protein; APP;  
 KW Alzheimer's disease.  
 XX  
 OS Homo sapiens.  
 XX  
 PN US6117901-A.  
 XX  
 PD 12-SEP-2000.  
 XX  
 PF 21-NOV-1997; 97US-00976179.  
 XX  
 PR 22-NOV-1996; 96US-00754895.  
 PR 22-NOV-1996; 96US-0098551P.

XX  
PA (ATHE-) ATHENA NEUROSCIENCES INC.  
PA (ELIL ) LILLY & CO ELI.  
XX  
PI Thorsett ED, Nissen JS, Wu J, Latimer LH, John V, Fang LY;  
PI Audia JE, Mabry TE;  
XX  
DR WPI; 1998-348123/30.  
XX  
PT New and use of substituted amino acid ester or thio-ester(s) - as  
PT inhibitors or beta-amyloid peptide release and/or synthesis used in the  
PT treatment and/or prevention of Alzheimer's disease.  
XX  
PS Disclosure; Col 11; 32pp; English.  
XX  
CC The present sequence is the beta-amyloid peptide, which is part of a  
CC large membrane-spanning glycoprotein, referred to as the beta-amyloid  
CC precursor protein (APP). Aryl substituted olefinic amine (metanicotine)  
CC compounds which inhibit beta-amyloid peptide release and/or its synthesis  
CC may be useful for treating Alzheimer's disease, both prophylactically and  
CC therapeutically  
XX  
SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
Best Local Similarity 100.0%; Pred. No. 5e-25;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
|||||  
Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

# RESULT 12

AAW71378

ID AAW71378 standard; peptide; 43 AA.  
XX  
AC AAW71378;  
XX  
DT 02-DEC-1998 (first entry)  
XX  
DE Beta-amyloid precursor protein epitope.  
XX  
KW Beta amyloid precursor protein; eukaryotic cell line;  
KW exogenous gene construction; identification; quantification; inhibitor;  
KW beta-amyloid processing; treatment; Alzheimer's disease; brain trauma;  
KW Downs syndrome.  
XX  
OS Homo sapiens.  
XX  
PN WO9837215-A1.  
XX  
PD 27-AUG-1998.  
XX  
PF 03-FEB-1998; 98WO-US001899.  
XX  
PR 24-FEB-1997; 97US-00804971.

PR 02-APR-1997; 97US-00825737.  
 PR 31-JUL-1997; 97US-00904296.  
 XX  
 PA (HMRI ) HOECHST MARION ROUSSEL INC.  
 PA (SCIO-) SCIOS INC.  
 XX  
 PI Cordell B, Scardina JM, Mischak RP, Huggins J, Pruss R;  
 PI Rautmann G;  
 XX  
 DR WPI; 1998-495368/42.  
 XX  
 PT New eukaryotic cell lines - contain a gene construct containing a beta-  
 PT amyloid precursor protein encoding sequence, used for identifying  
 PT inhibitors of beta-amyloid processing.  
 XX  
 PS Disclosure; Fig 5; 82pp; English.  
 XX  
 CC The present sequence represents an epitope derived from a beta amyloid  
 CC precursor protein, and recognised by antibodies BA#1, 108.1, 1702.1, and  
 CC 1101.1. The specification describes an eukaryotic cell line having  
 CC exogenous gene construction comprising a cytomegalovirus (CMV) promoter,  
 CC a strong ribosome binding site (RBS), a beta-amyloid precursor protein  
 CC (BAPP) nucleic acid sequence, a selectable marker, and a poly-adenylation  
 CC signal. The products can be used for identifying or quantifying beta-  
 CC amyloid protein and for identifying inhibitors of beta-amyloid  
 CC processing. They can be used to develop products for treating  
 CC amyloidoses, e.g. Alzheimer's disease, brain trauma or Downs syndrome  
 XX  
 SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA 43  
 |||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA 43

RESULT 13  
 AAW40129  
 ID AAW40129 standard; peptide; 43 AA.  
 XX  
 AC AAW40129;  
 XX  
 DT 03-JUN-1998 (first entry)  
 XX  
 DE Human amyloid-beta peptide.  
 XX  
 KW Amyloid-beta peptide; A-beta; beta-AP; senile plaque; angiopathy; brain;  
 KW membrane-spanning glycoprotein; beta-amyloid precursor protein; APP;  
 KW chromosome 21; human; Alzheimers disease; AD; amyloid filament;  
 KW treatment; disease; Down's syndrome; hereditary cerebral haemorrhage.  
 XX  
 OS Homo sapiens.  
 XX  
 PN W09748983-A1.

XX PD 24-DEC-1997.  
XX  
PF 18-JUN-1997; 97WO-US010601.  
XX  
PR 18-JUN-1996; 96US-00665649.  
XX  
PA (ATHE-) ATHENA NEUROSCIENCES INC.  
PA (BGHM ) BRIGHAM & WOMENS HOSPITAL.  
XX  
PI Citron M, Selkoe DJ, Seubert PA, Schenk D;  
XX  
DR WPI; 1998-063287/06.  
XX  
PT Identifying compounds that alter cellular production of amyloid-beta 42  
PT fragment - in vitro or in transgenic animal models, potentially useful  
PT for treatment of Alzheimer's and other amyloid deposition diseases.  
XX  
PS Disclosure; Page 15; 86pp; English.  
XX  
CC This sequence represents a human amyloid-beta peptide (A-beta) which is a  
CC fragment of the of a large membrane-spanning glycoprotein referred to as  
CC the beta-amyloid precursor protein (APP) encoded by a gene on the long  
CC arm of chromosome 21. This peptide is also known as the beta-AP peptide  
CC and forms the subunit of the amyloid filaments comprising senile  
CC (amyloid) plaques and the amyloid deposits in small cerebral and  
CC meningeal blood vessels (amyloid angiopathy). The A-beta peptide can be a  
CC 39-43 amino acid fragment. This invention provides methods of screening  
CC compounds for their ability to alter the production of the A-beta  
CC peptide, which is composed of >41 amino acids, alone, or in combination  
CC with the A-beta peptide composed of 40 amino acids or less. Such agents  
CC that reduce the production of the A-beta peptide are potentially useful  
CC for treatment of Alzheimers Disease or other diseases involving amyloid  
CC deposition such as Down's syndrome, hereditary cerebral haemorrhage with  
CC amyloidosis of Dutch type and advanced aging of the brain  
XX  
SQ Sequence 43 AA;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA 43  
| | | | | | | | | | | | | | | | | | | | | | | | | |  
Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA 43

```

RESULT 14
AAW89362
ID    AAW89362 standard; peptide; 43 AA.
XX
AC    AAW89362;
XX
DT    02-MAR-1999   (first entry)
XX
DE    Beta-amyloid peptide derivative A-beta-1-43.
XX

```



KW Human; beta-amyloid peptide; Alzheimer's disease; amyloidogenic protein;  
 KW aggregation; neurotoxicity; amyloidosis; Down's syndrome; cardiomyopathy;  
 KW familial amyloid polyneuropathy; bovine spongiform encephalopathy;  
 KW Creutzfeldt-Jakob disease; bAP.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 PN US5854204-A.  
 XX  
 PD 29-DEC-1998.  
 XX  
 PF 14-MAR-1996; 96US-00612785.  
 XX  
 PR 14-MAR-1995; 95US-00404831.  
 PR 07-JUN-1995; 95US-00475579.  
 PR 27-OCT-1995; 95US-00548998.  
 XX  
 PA (PRAE-) PRAECIS PHARM INC.  
 XX  
 PI Hundal A, Gefter ML, Kasman L, Musso G, Molineaux S, Benjamin H;  
 PI Findeis MA, Chin J, Lee J, Kelley M, Reed M, Wakefield J;  
 PI Garnick MB, Kubasek W, Signer ER;  
 XX  
 DR WPI; 1999-094964/08.  
 XX  
 PT New peptide(s) derived from beta-amyloid peptide that inhibit amyloid  
 PT aggregation - and neurotoxicity, specifically for treatment and  
 PT prevention of Alzheimer's disease.  
 XX  
 PS Example 1; Col 46; 52pp; English.  
 XX  
 CC The present invention describes beta-amyloid peptide (bAP) derivatives.  
 CC The bAP derivatives inhibit aggregation of amyloidogenic proteins and  
 CC peptides, specifically bAP, and their neurotoxicity, so are useful for  
 CC treating and preventing any disease involving amyloidosis, specifically  
 CC Alzheimer's disease but also Down's syndrome, familial amyloid  
 CC polyneuropathy or cardiomyopathy, bovine spongiform encephalopathy and  
 CC Creutzfeldt-Jakob disease. The bAP derivatives are also used to diagnose  
 CC these diseases, in vitro or in vivo, by detecting binding of bAP to  
 CC labelled bAP derivatives. Some bAP derivatives inhibit bAP aggregation  
 CC even when bAP is present in molar excess. The present sequence represents  
 CC a bAP derivative  
 XX  
 SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVVAT 43  
 ||||||||||||||||||||||||||||||||||||||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVVAT 43

RESULT 15  
 AAY88390

ID AAY88390 standard; protein; 43 AA.  
 XX  
 AC AAY88390;  
 XX  
 DT 25-JUL-2000. (first entry)  
 XX  
 DE Beta-amyloid peptide amino acid sequence.  
 XX  
 KW Beta-amyloid peptide; Alzheimer's disease; inhibitor; treatment.  
 XX  
 OS Unidentified.  
 XX  
 PN WO200019210-A2.  
 XX  
 PD 06-APR-2000.  
 XX  
 PF 29-SEP-1999; 99WO-US022684.  
 XX  
 PR 30-SEP-1998; 98US-0160082P.  
 XX  
 PA (ELAN-) ELAN PHARM INC.  
 PA (ELIL ) LILLY & CO ELI.  
 XX  
 PI Audia JE, Hyslop PA, Nissen JS, Thompson RC, Tung JS, Tanner LI;  
 XX  
 DR WPI; 2000-328743/28.  
 XX  
 PT New reagents which bind factors involved in production of beta-amyloid  
 PT peptide, useful for developing drugs for use in treatment of Alzheimer's  
 PT disease.  
 XX  
 PS Disclosure; Page 14-15; 86pp; English.  
 XX  
 CC This amino acid sequence represents the beta-amyloid peptide, which is a  
 CC fragment of the larger amyloid precursor protein (APP). Brains of  
 CC patients with Alzheimer's disease have characteristic lesions termed  
 CC senile or amyloid plaques, the principle constituent of which is the beta  
 CC -amyloid peptide. The invention relates to biological reagents which  
 CC inhibit beta-amyloid release and/or its synthesis. The reagents can be  
 CC used to determine the cellular mechanism involved in the generation of  
 CC the beta-amyloid peptide. The compounds can also be used to identify  
 CC cells which express a cellular agent, such as peptides or proteins  
 CC involved with beta-amyloid peptide release and/or its synthesis. Such  
 CC methods can be used to provide drug design for agents which target  
 CC Alzheimer's disease  
 XX  
 SQ Sequence 43 AA;

Query Match 100.0%; Score 222; DB 3; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 5e-25;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLFFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||||  
 Db 1 DAEFRHDSGYEVHHQKLFFFAEDVGSNKGAIIGLMVGGVVIAT 43

Search completed: November 19, 2004, 16:54:10  
Job time : 210.681 secs

OM protein - protein search, using sw model

Run on: November 19, 2004, 16:39:17 ; Search time 50.3191 Seconds  
(without alignments)  
56.672 Million cell updates/sec

Title: US-09-830-954A-3  
Perfect score: 222  
Sequence: 1 DAEFRHDSGYEVHHQKLVFF.....VGSNKGAIIGLMVGGVVIAT 43

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 478139 seqs, 66318000 residues

Total number of hits satisfying chosen parameters: 478139

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued\_Patents\_AA:\*  
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3: /cgn2\_6/ptodata/1/iaa/6A\_COMB.pep:\*  
4: /cgn2\_6/ptodata/1/iaa/6B\_COMB.pep:\*  
5: /cgn2\_6/ptodata/1/iaa/PCTUS\_COMB.pep:\*  
6: /cgn2\_6/ptodata/1/iaa/backfiles1.pep:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	% Query		DB	ID	Description
		Match	Length			
1	222	100.0	43	1	US-08-235-400-1	Sequence 1, Appli
2	222	100.0	43	1	US-08-437-067-1	Sequence 1, Appli
3	222	100.0	43	1	US-08-302-808-6	Sequence 6, Appli
4	222	100.0	43	1	US-08-079-511-1	Sequence 1, Appli
5	222	100.0	43	1	US-08-467-607-1	Sequence 1, Appli
6	222	100.0	43	2	US-08-404-831-1	Sequence 1, Appli
7	222	100.0	43	2	US-08-602-264A-3	Sequence 3, Appli
8	222	100.0	43	2	US-08-469-362-1	Sequence 1, Appli
9	222	100.0	43	2	US-08-612-785B-1	Sequence 1, Appli
10	222	100.0	43	2	US-08-475-579A-1	Sequence 1, Appli
11	222	100.0	43	2	US-08-850-392-1	Sequence 1, Appli

12	222	100.0	43	2	US-08-986-948-6	Sequence 6, Appli
13	222	100.0	43	2	US-08-975-977-1	Sequence 1, Appli
14	222	100.0	43	2	US-08-817-423-1	Sequence 1, Appli
15	222	100.0	43	2	US-08-920-162A-1	Sequence 1, Appli
16	222	100.0	43	3	US-08-461-018A-3	Sequence 3, Appli
17	222	100.0	43	3	US-08-976-191-1	Sequence 1, Appli
18	222	100.0	43	3	US-08-976-179-1	Sequence 1, Appli
19	222	100.0	43	3	US-09-216-958-3	Sequence 3, Appli
20	222	100.0	43	3	US-09-356-931-1	Sequence 1, Appli
21	222	100.0	43	3	US-08-733-202-1	Sequence 1, Appli
22	222	100.0	43	3	US-08-703-675C-1	Sequence 1, Appli
23	222	100.0	43	3	US-09-390-692-1	Sequence 1, Appli
24	222	100.0	43	3	US-08-617-267C-1	Sequence 1, Appli
25	222	100.0	43	3	US-09-303-655-1	Sequence 1, Appli
26	222	100.0	43	3	US-08-294-819-1	Sequence 1, Appli
27	222	100.0	43	4	US-09-408-283-1	Sequence 1, Appli
28	222	100.0	43	4	US-09-280-966-1	Sequence 1, Appli
29	222	100.0	43	4	US-09-032-019-1	Sequence 1, Appli
30	222	100.0	43	4	US-09-481-980A-1	Sequence 1, Appli
31	222	100.0	43	4	US-09-594-366-1	Sequence 1, Appli
32	222	100.0	43	4	US-08-665-649-1	Sequence 1, Appli
33	222	100.0	43	4	US-09-915-342-1	Sequence 1, Appli
34	222	100.0	43	4	US-08-996-422-1	Sequence 1, Appli
35	222	100.0	43	4	US-09-984-834-1	Sequence 1, Appli
36	222	100.0	43	4	US-09-027-258-2	Sequence 2, Appli
37	222	100.0	43	4	US-09-895-443A-1	Sequence 1, Appli
38	222	100.0	43	4	US-09-904-987-1	Sequence 1, Appli
39	222	100.0	43	4	US-10-314-221-1	Sequence 1, Appli
40	222	100.0	43	4	US-10-267-017-1	Sequence 1, Appli
41	222	100.0	47	2	US-08-609-090-10	Sequence 10, Appl
42	222	100.0	48	4	US-09-560-883-1	Sequence 1, Appli
43	222	100.0	52	2	US-08-609-090-11	Sequence 11, Appl
44	222	100.0	53	3	US-09-173-887-5	Sequence 5, Appli
45	222	100.0	53	4	US-09-797-543-5	Sequence 5, Appli

#### ALIGNMENTS

#### RESULT 1

US-08-235-400-1

; Sequence 1, Application US/08235400

; Patent No. 5552426

; GENERAL INFORMATION:

; APPLICANT: Lunn, William H.

; APPLICANT: Monn, James A.

; APPLICANT: Zimmerman, Dennis M.

; TITLE OF INVENTION: METHODS FOR TREATING A PHYSIOLOGICAL

; TITLE OF INVENTION: DISORDER ASSOCIATED WITH BETA AMYLOID PEPTIDE

; NUMBER OF SEQUENCES: 2

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Eli Lilly and Company

; STREET: Lilly Corporate Center/1104

; CITY: Indianapolis

; STATE: Indiana

; COUNTRY: United States of America

; ZIP: 46285

```

; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/235,400
; FILING DATE:
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Gaylo, Paul J.
; REGISTRATION NUMBER: 36,808
; REFERENCE/DOCKET NUMBER: X-9507
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (317) 276-0756
; TELEFAX: (317) 276-3861
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 43 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-235-400-1

```

```

Query Match          100.0%; Score 222; DB 1; Length 43;
Best Local Similarity 100.0%; Pred. No. 8e-27;
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43
        ||||||||||||||||||||||||||||||||||||||||
Db      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

```

# RESULT 2

```

US-08-437-067-1
; Sequence 1, Application US/08437067
; Patent No. 5593846
; GENERAL INFORMATION:
; APPLICANT: Schenk, Dale B.
; APPLICANT: Selkoe, Dennis J.
; APPLICANT: Schlossmacher, Michael G.
; APPLICANT: Seubert, Peter A.
; APPLICANT: Vigo-Pelfrey, Carmen
; TITLE OF INVENTION: Methods and Compositions for
; TITLE OF INVENTION: Detection
; TITLE OF INVENTION: of Soluble Beta-Amyloid Peptide
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend
; STREET: One Market Plaza, Steuart Tower, Suite 2000
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94105
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk

```

```

;   COMPUTER:  IBM PC compatible
;   OPERATING SYSTEM:  PC-DOS/MS-DOS
;   SOFTWARE:  PatentIn Release #1.0, Version #1.25
;   CURRENT APPLICATION DATA:
;     APPLICATION NUMBER:  US/08/437,067
;     FILING DATE:
;     CLASSIFICATION:  435
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER:  US 07/965,972
;     FILING DATE:  26-OCT-1992
;     APPLICATION NUMBER:  US 07/911,647
;     FILING DATE:  10-JUL-1992
;   ATTORNEY/AGENT INFORMATION:
;     NAME:  Heslin, James M.
;     REGISTRATION NUMBER:  29,541
;     REFERENCE/DOCKET NUMBER:  15270-6-1
;   TELECOMMUNICATION INFORMATION:
;     TELEPHONE:  415-326-2400
;     TELEFAX:  415-326-2422
;   INFORMATION FOR SEQ ID NO:  1:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  43 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
US-08-437-067-1

```

```

Query Match          100.0%;  Score 222;  DB 1;  Length 43;
Best Local Similarity 100.0%;  Pred. No. 8e-27;
Matches  43;  Conservative  0;  Mismatches  0;  Indels  0;  Gaps  0;

```

```

Qy      1 DAEFRHDSGYEVHHQKLVFFFAEDVGSNKGAIIGLMVGGVVIAT 43
        |||||||||||||||
Db      1 DAEFRHDSGYEVHHQKLVFFFAEDVGSNKGAIIGLMVGGVVIAT 43

```

# RESULT 3

US-08-302-808-6

```

; Sequence 6, Application US/08302808
; Patent No. 5750349
; GENERAL INFORMATION:
;   APPLICANT:  SUZUKI, No. 5750349uhiro
;   APPLICANT:  ODAKA, Asano
;   APPLICANT:  KITADA, Chieko
;   TITLE OF INVENTION:  ANTIBODIES TO B-AMYLOIDS OR THEIR
;   TITLE OF INVENTION:  DERIVATIVES AND USE THEREOF
;   NUMBER OF SEQUENCES:  14
;   CORRESPONDENCE ADDRESS:
;     ADDRESSEE:  DIKE, BRONSTEIN, ROBERTS & CUSHMAN
;     STREET:  130 WATER STREET
;     CITY:  BOSTON
;     STATE:  MA
;     COUNTRY:  USA
;     ZIP:  02019
;   COMPUTER READABLE FORM:
;     MEDIUM TYPE:  Diskette

```

```

;   COMPUTER:  IBM Compatible
;   OPERATING SYSTEM:  DOS
;   SOFTWARE:  FastSEQ Version 1.5
;   CURRENT APPLICATION DATA:
;   APPLICATION NUMBER:  US/08/302,808
;   FILING DATE:  15-SEP-1994
;   CLASSIFICATION:  435
;   PRIOR APPLICATION DATA:
;   APPLICATION NUMBER:  PCT/JP94/00089
;   FILING DATE:  24-JAN-1994
;   APPLICATION NUMBER:  010132/1993
;   FILING DATE:  25-JAN-1993
;   APPLICATION NUMBER:  019035/1993
;   FILING DATE:  05-FEB-1993
;   APPLICATION NUMBER:  286985/1993
;   FILING DATE:  16-NOV-1993
;   APPLICATION NUMBER:  334773/1993
;   FILING DATE:  28-DEC-1993
;   ATTORNEY/AGENT INFORMATION:
;   NAME:  DAVID, RESNICK S
;   REGISTRATION NUMBER:  34,235
;   REFERENCE/DOCKET NUMBER:  44631
;   TELECOMMUNICATION INFORMATION:
;   TELEPHONE:  617-523-3400
;   TELEFAX:  617-523-6440
;   TELEX:  200291 STRE
;   INFORMATION FOR SEQ ID NO:  6:
;   SEQUENCE CHARACTERISTICS:
;   LENGTH:  43 amino acids
;   TYPE:  amino acid
;   STRANDEDNESS:  single
;   TOPOLOGY:  linear
;   MOLECULE TYPE:  peptide
;   HYPOTHETICAL:  NO
;   ANTI-SENSE:  NO
;   FRAGMENT TYPE:  N-terminal
;   ORIGINAL SOURCE:
US-08-302-808-6

```

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Query Match          100.0%;  Score 222;  DB 1;  Length 43;
Best Local Similarity 100.0%;  Pred. No. 8e-27;
Matches  43;  Conservative  0;  Mismatches  0;  Indels  0;  Gaps  0;

```

```

Qy      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43
        |||
Db      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

```

#### RESULT 4

US-08-079-511-1

```

; Sequence 1, Application US/08079511
; Patent No. 5766846
; GENERAL INFORMATION:
;   APPLICANT:  Schenk, Dale B.
;   APPLICANT:  Selkoe, Dennis J.
;   APPLICANT:  Schlossmacher, Michael G.
;   APPLICANT:  Seubert, Peter A.

```



```

; APPLICANT: Vigo-Pelfrey, Carmen
; TITLE OF INVENTION: Methods and Compositions for Detection
; TITLE OF INVENTION: of Soluble Beta-Amyloid Peptide
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend
; STREET: One Market Plaza, Steuart Tower, Suite 2000
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94105
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/079,511
; FILING DATE: 19930617
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/965,972
; FILING DATE: 26-OCT-1992
; ATTORNEY/AGENT INFORMATION:
; NAME: Heslin, James M.
; REGISTRATION NUMBER: 29,541
; REFERENCE/DOCKET NUMBER: 15270-6-1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415-326-2400
; TELEFAX: 415-326-2422
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 43 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-079-511-1

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```

Query Match          100.0%; Score 222; DB 1; Length 43;
Best Local Similarity 100.0%; Pred. No. 8e-27;
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43
        ||||||||||||||||||||||||||||||||||||||||
Db      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

```

```

RESULT 5
US-08-467-607-1
; Sequence 1, Application US/08467607
; Patent No. 5783434
; GENERAL INFORMATION:
; APPLICANT: TUNG, JAY S.
; APPLICANT: SINHA, SUKANTO
; APPLICANT: McCONLOGUE, LISA
; APPLICANT: TATSUNO, GWEN

```

```

; APPLICANT: ANDERSON, JOHN
; APPLICANT: CHRYSLER, SUSANNA
; TITLE OF INVENTION: NOVEL CATHEPSIN AND METHODS AND
; TITLE OF INVENTION: COMPOSITIONS FOR INHIBITION THEREOF
; NUMBER OF SEQUENCES: 20
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ATHENA NEUROSCIENCES
; STREET: 800 F. Gateway Blvd.
; CITY: South San Francisco
; STATE: CA
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/467,607
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: DUVALL, JEAN M.
; REGISTRATION NUMBER: 32,731
; REFERENCE/DOCKET NUMBER: 002010-007
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 877-0900
; TELEFAX: (415) 877-8370
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 43 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
US-08-467-607-1

```

```

Query Match          100.0%; Score 222; DB 1; Length 43;
Best Local Similarity 100.0%; Pred. No. 8e-27;
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43
        ||||||||||||||||||||||||||||||||||||||||
Db      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

```

# RESULT 6

US-08-404-831-1

; Sequence 1, Application US/08404831

; Patent No. 5817626

## ; GENERAL INFORMATION:

; APPLICANT: Mark A. Findeis, Howard Benjamin, Marc B. Garnick,

; APPLICANT: Malcolm L. Gefter, Arvind Hundal, Laura Kasman,

; APPLICANT: Gary Musso, Ethan R. Signer, and James Wakefield

; TITLE OF INVENTION: Modulators of {SYMBOL 98 \f "Symbol"}-Amyloid Peptide

Aggrega

; NUMBER OF SEQUENCES: 3

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: LAHIVE & COCKFIELD  
 ; STREET: 60 State Street, Suite 510  
 ; CITY: Boston  
 ; STATE: Massachusetts  
 ; COUNTRY: USA  
 ; ZIP: 02109-1875  
 ; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Floppy disk  
 ; COMPUTER: IBM PC compatible  
 ; OPERATING SYSTEM: PC-DOS/MS-DOS  
 ; SOFTWARE: PatentIn Release #1.0, Version #1.25  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: US/08/404,831  
 ; FILING DATE: Herewith  
 ; CLASSIFICATION: 514  
 ; PRIOR APPLICATION DATA:  
 ; APPLICATION NUMBER:  
 ; FILING DATE:  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: Hanley, Elizabeth A. (EAH)  
 ; REGISTRATION NUMBER: 33,505  
 ; REFERENCE/DOCKET NUMBER: PPI-002  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE: (617)227-7400  
 ; TELEFAX: (617)227-5941  
 ; INFORMATION FOR SEQ ID NO: 1:  
 ; SEQUENCE CHARACTERISTICS:  
 ; LENGTH: 43 amino acids  
 ; TYPE: amino acid  
 ; TOPOLOGY: linear  
 ; MOLECULE TYPE: peptide  
 ; FRAGMENT TYPE: internal  
 US-08-404-831-1

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 8e-27;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||||  
 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

RESULT 7

US-08-602-264A-3

; Sequence 3, Application US/08602264A

; Patent No. 5837853

; GENERAL INFORMATION:

; APPLICANT: Akihiko TAKASHIMA et al.

; TITLE OF INVENTION: PREVENTIVE OR THERAPEUTIC AGENTS FOR

; TITLE OF INVENTION: ALZHEIMER'S DISEASE, A SCREENING METHOD OF ALZHEIMER'S DISEASE A

; TITLE OF INVENTION: tau-PROTEIN KINASE I ORIGINATED FROM HUMAN BEING (AS AMENDED)

; NUMBER OF SEQUENCES: 14

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: WENDEROTH, LIND & PONACK

; STREET: 805 Fifteenth Street, N.W., #700  
 ; CITY: Washington  
 ; COUNTRY: D.C.  
 ; ZIP: 20005  
 ; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Diskette, 3.5 inch,  
 ; MEDIUM TYPE: 144 mb  
 ; COMPUTER: IBM Compatible  
 ; OPERATING SYSTEM: MS-DOS  
 ; SOFTWARE: Wordperfect 5.1  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: US/08/602,264A  
 ; FILING DATE: February 20, 1996  
 ; CLASSIFICATION: 514  
 ; PRIOR APPLICATION DATA:  
 ; APPLICATION NUMBER: 08/204,091  
 ; FILING DATE: March 2, 1994  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: Warren M. Cheek, Jr.  
 ; REGISTRATION NUMBER: 33,367  
 ; REFERENCE/DOCKET NUMBER:  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE:  
 ; TELEFAX:  
 ; TELEX:  
 ; INFORMATION FOR SEQ ID NO: 3:  
 ; SEQUENCE CHARACTERISTICS:  
 ; LENGTH: 43 amino acids  
 ; TYPE: amino acid  
 ; STRANDEDNESS: single  
 ; TOPOLOGY: linear  
 ; MOLECULE TYPE: peptide  
 US-08-602-264A-3

Query Match 100.0%; Score 222; DB 2; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 8e-27;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLFFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||  
 Db 1 DAEFRHDSGYEVHHQKLFFFAEDVGSNKGAIIGLMVGGVVIAT 43

# RESULT 8

US-08-469-362-1

; Sequence 1, Application US/08469362

; Patent No. 5849711

## ; GENERAL INFORMATION:

; APPLICANT: TUNG, JAY S.

; APPLICANT: SINHA, SUKANTO

; APPLICANT: McCONLOGUE, LISA

; APPLICANT: SEMKO, CHRISTOPHER M.F.

; TITLE OF INVENTION: NOVEL CATHEPSIN AND METHODS AND

; TITLE OF INVENTION: COMPOSITIONS FOR INHIBITION THEREOF

; NUMBER OF SEQUENCES: 20

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: ATHENA NEUROSCIENCES

```

; STREET: 800 F. Gateway Blvd.
; CITY: South San Francisco
; STATE: CA
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/469,362
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: DUVALL, JEAN M.
; REGISTRATION NUMBER: 32,731
; REFERENCE/DOCKET NUMBER: 002010-005
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 877-0900
; TELEFAX: (415) 877-8370
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 43 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
US-08-469-362-1

```

```

Query Match          100.0%; Score 222; DB 2; Length 43;
Best Local Similarity 100.0%; Pred. No. 8e-27;
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43
        |||
Db      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

```

RESULT 9

US-08-612-785B-1

; Sequence 1, Application US/08612785B

; Patent No. 5854204

; GENERAL INFORMATION:

; APPLICANT: Findeis, Mark A. et al.

; TITLE OF INVENTION: Ab Peptides that Modulate b-Amyloid

; TITLE OF INVENTION: Aggregation

; NUMBER OF SEQUENCES: 40

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: LAHIVE & COCKFIELD

; STREET: 28 State Street, Suite 510

; CITY: Boston

; STATE: Massachusetts

; COUNTRY: USA

; ZIP: 02109-1875

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

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;   OPERATING SYSTEM:  PC-DOS/MS-DOS
;   SOFTWARE:  PatentIn Release #1.0, Version #1.25
;   CURRENT APPLICATION DATA:
;   APPLICATION NUMBER:  US/08/612,785B
;   FILING DATE:  Herewith
;   CLASSIFICATION:  514
;   PRIOR APPLICATION DATA:
;   APPLICATION NUMBER:  USSN 08/404,831
;   FILING DATE:  14-MAR-1995
;   PRIOR APPLICATION DATA:
;   APPLICATION NUMBER:  USSN 08/475,579
;   FILING DATE:  07-JUN-1995
;   PRIOR APPLICATION DATA:
;   APPLICATION NUMBER:  USSN 08/548,998
;   FILING DATE:  27-OCT-1995
;   ATTORNEY/AGENT INFORMATION:
;   NAME:  DeConti, Giulio A.
;   REGISTRATION NUMBER:  31,503
;   REFERENCE/DOCKET NUMBER:  PPI-002CP3
;   TELECOMMUNICATION INFORMATION:
;   TELEPHONE:  (617)227-7400
;   TELEFAX:  (617)742-4214
;   INFORMATION FOR SEQ ID NO:  1:
;   SEQUENCE CHARACTERISTICS:
;   LENGTH:  43 amino acids
;   TYPE:  amino acid
;   TOPOLOGY:  linear
;   MOLECULE TYPE:  peptide
;   FRAGMENT TYPE:  internal
US-08-612-785B-1

```

```

Query Match          100.0%;  Score 222;  DB 2;  Length 43;
Best Local Similarity 100.0%;  Pred. No. 8e-27;
Matches  43;  Conservative  0;  Mismatches  0;  Indels  0;  Gaps  0;

```

```

Qy      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43
        ||||||||||||||||||||||||||||||||||||||||
Db      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

```

RESULT 10

US-08-475-579A-1

```

; Sequence 1, Application US/08475579A
; Patent No. 5854215
; GENERAL INFORMATION:
;   APPLICANT:  Mark A. Findeis et al.
;   TITLE OF INVENTION:  Modulators of {SYMBOL 98 \f "Symbol"}-Amyloid Peptide
Aggrega
;   NUMBER OF SEQUENCES:  4
;   CORRESPONDENCE ADDRESS:
;   ADDRESSEE:  LAHIVE & COCKFIELD
;   STREET:  28 State Street
;   CITY:  Boston
;   STATE:  Massachusetts
;   COUNTRY:  USA
;   ZIP:  02109
;   COMPUTER READABLE FORM:

```

```

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/475,579A
; FILING DATE: 07-JUN-1995
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/404,831
; FILING DATE: 14-MAR-1995
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Kara, Catherine J.
; REGISTRATION NUMBER: P41,106
; REFERENCE/DOCKET NUMBER: PPI-002CP
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)227-7400
; TELEFAX: (617)742-4214
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 43 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FRAGMENT TYPE: internal
US-08-475-579A-1

```

```

Query Match          100.0%; Score 222; DB 2; Length 43;
Best Local Similarity 100.0%; Pred. No. 8e-27;
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43
        |||
Db      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

```

# RESULT 11

US-08-850-392-1

```

; Sequence 1, Application US/08850392
; Patent No. 5858982
; GENERAL INFORMATION:
; APPLICANT: TUNG, JAY S.
; APPLICANT: SINHA, SUKANTO
; APPLICANT: McCONLOGUE, LISA
; APPLICANT: SEMKO, CHRISTOPHER M.F.
; TITLE OF INVENTION: NOVEL CATHEPSIN AND METHODS AND
; TITLE OF INVENTION: COMPOSITIONS FOR INHIBITION THEREOF
; NUMBER OF SEQUENCES: 20
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ATHENA NEUROSCIENCES
; STREET: 800 F. Gateway Blvd.
; CITY: South San Francisco
; STATE: CA
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:

```

```

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/850,392
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/469,362
; FILING DATE: 06-JUN-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: DUVALL, JEAN M.
; REGISTRATION NUMBER: 32,731
; REFERENCE/DOCKET NUMBER: 002010-005
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 877-0900
; TELEFAX: (415) 877-8370
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 43 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
US-08-850-392-1

```

```

Query Match          100.0%; Score 222; DB 2; Length 43;
Best Local Similarity 100.0%; Pred. No. 8e-27;
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43
        |||
Db      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

```

# RESULT 12

US-08-986-948-6

```

; Sequence 6, Application US/08986948
; Patent No. 5955317
; GENERAL INFORMATION:
; APPLICANT: SUZUKI, No. 5955317uhiro
; APPLICANT: ODAKA, Asano
; APPLICANT: KITADA, Chieko
; TITLE OF INVENTION: ANTIBODIES TO B-AMYLOIDS OR THEIR
; TITLE OF INVENTION: DERIVATIVES AND USE THEREOF
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: DIKE, BRONSTEIN, ROBERTS & CUSHMAN
; STREET: 130 WATER STREET
; CITY: BOSTON
; STATE: MA
; COUNTRY: USA
; ZIP: 02019
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS

```



```

; SOFTWARE: FastSEQ Version 1.5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/986,948
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/302,808
; FILING DATE: 15-SEP-1994
; APPLICATION NUMBER: PCT/JP94/00089
; FILING DATE: 24-JAN-1994
; APPLICATION NUMBER: 010132/1993
; FILING DATE: 25-JAN-1993
; APPLICATION NUMBER: 019035/1993
; FILING DATE: 05-FEB-1993
; APPLICATION NUMBER: 286985/1993
; FILING DATE: 16-NOV-1993
; APPLICATION NUMBER: 334773/1993
; FILING DATE: 28-DEC-1993
; ATTORNEY/AGENT INFORMATION:
; NAME: DAVID, RESNICK S
; REGISTRATION NUMBER: 34,235
; REFERENCE/DOCKET NUMBER: 44631
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 617-523-3400
; TELEFAX: 617-523-6440
; TELEX: 200291 STRE
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 43 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
US-08-986-948-6

```

```

Query Match          100.0%; Score 222; DB 2; Length 43;
Best Local Similarity 100.0%; Pred. No. 8e-27;
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43
        ||||||||||||||||||||||||||||||||||||||||
Db      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

```

```

RESULT 13
US-08-975-977-1
; Sequence 1, Application US/08975977
; Patent No. 5965614
; GENERAL INFORMATION:
; APPLICANT: JAMES E. AUDIA
; APPLICANT: BEVERLY K. FOLMER
; APPLICANT: VARGHESE JOHN
; APPLICANT: LEE H. LATIMER

```

```

; APPLICANT: JEFFREY S. NISSEN
; APPLICANT: JON K. REEL
; APPLICANT: EUGENE D. THORSETT
; APPLICANT: CELIA A. WHITESITT
; TITLE OF INVENTION: N-(ARYL/HETEROARYL) AMINO
; TITLE OF INVENTION: ACID ESTERS, PHARMACEUTICAL
; TITLE OF INVENTION: COMPOSITIONS COMPRISING SAME, AND
; TITLE OF INVENTION: METHODS FOR INHIBITING BETA-AMYLOID
; TITLE OF INVENTION: PEPTIDE RELEASE AND/OR ITS
; TITLE OF INVENTION: SYNTHESIS BY USE OF SUCH COMPOUNDS
; NUMBER OF SEQUENCES: 1
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Burns, Doane, Swecker &
; ADDRESSEE: Mathis, LLP
; STREET: P.O. Box 1404
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: U.S.A.
; ZIP: 22313-1404
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version
; SOFTWARE: #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/975,977
; FILING DATE: Unassigned
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/755,444
; FILING DATE: 22 No. 5965614ember 1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Swiss, Gerald F.
; REGISTRATION NUMBER: 30,113
; REFERENCE/DOCKET NUMBER: 002010-044
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650-854-7400
; TELEFAX: 650-854-8275
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 43 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-975-977-1

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Query Match          100.0%; Score 222; DB 2; Length 43;
Best Local Similarity 100.0%; Pred. No. 8e-27;
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43
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Db      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

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RESULT 14

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; Sequence 1, Application US/08817423
; Patent No. 5972634
; GENERAL INFORMATION:
;   APPLICANT: TANZI, RUDOLPH E.
;   APPLICANT: BUSH, ASHLEY I.
;   APPLICANT: MOIR, ROBERT D.
;   TITLE OF INVENTION: A Diagnostic Assay for Alzheimer's
;   TITLE OF INVENTION: Disease: Assessment of A Abnormalities
;   NUMBER OF SEQUENCES: 1
;   CORRESPONDENCE ADDRESS:
;     ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
;     STREET: 1100 NEW YORK AVENUE, NW, SUITE 600
;     CITY: WASHINGTON
;     STATE: DC
;     COUNTRY: USA
;     ZIP: 20005-3934
;   COMPUTER READABLE FORM:
;     MEDIUM TYPE: Floppy disk
;     COMPUTER: IBM PC compatible
;     OPERATING SYSTEM: PC-DOS/MS-DOS
;     SOFTWARE: PatentIn Release #1.0, Version #1.30
;   CURRENT APPLICATION DATA:
;     APPLICATION NUMBER: US/08/817,423
;     FILING DATE: 4-AUG-1997
;     CLASSIFICATION: 435
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER: WO PCT/US94/11895
;     FILING DATE: 19-OCT-1994
;   ATTORNEY/AGENT INFORMATION:
;     NAME: KIM, JUDITH U.
;     REGISTRATION NUMBER: 40,679
;     REFERENCE/DOCKET NUMBER: 0609.4110000/REF/JUK
;   TELECOMMUNICATION INFORMATION:
;     TELEPHONE: (202) 371-2600
;     TELEFAX: (202) 371-2540
;   INFORMATION FOR SEQ ID NO: 1:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH: 43 amino acids
;       TYPE: amino acid
;       STRANDEDNESS: single
;       TOPOLOGY: not relevant
;     MOLECULE TYPE: peptide

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Query Match 100.0%; Score 222; DB 2; Length 43;  
Best Local Similarity 100.0%; Pred. No. 8e-27;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy            1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAIAT 43  
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Db            1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAIAT 43

; Sequence 1, Application US/08920162A



Search completed: November 19, 2004, 17:00:24  
Job time : 51.3191 secs

OM protein - protein search, using sw model

Run on: November 19, 2004, 16:35:52 ; Search time 43.9149 Seconds  
(without alignments)  
94.212 Million cell updates/sec

Title: US-09-830-954A-3  
Perfect score: 222  
Sequence: 1 DAEFRHDSGYEVHHQKLVFF.....VGSNKGAIIGLMVGGVVIAT 43

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : PIR 79:\*  
1: pir1:\*  
2: pir2:\*  
3: pir3:\*  
4: pir4:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	%		Query			Description
	Score	Match	Length	DB	ID	
1	222	100.0	57	2	A60045	Alzheimer's diseas
2	222	100.0	57	2	F60045	Alzheimer's diseas
3	222	100.0	57	2	D60045	Alzheimer's diseas
4	222	100.0	57	2	E60045	Alzheimer's diseas
5	222	100.0	57	2	G60045	Alzheimer's diseas
6	222	100.0	57	2	B60045	Alzheimer's diseas
7	222	100.0	82	2	PQ0438	Alzheimer's diseas
8	222	100.0	695	1	A49795	Alzheimer's diseas
9	222	100.0	770	1	QRHUA4	Alzheimer's diseas
10	217	97.7	42	2	PN0512	beta-amyloid prote
11	203	91.4	695	2	A27485	Alzheimer's diseas
12	203	91.4	695	2	S00550	Alzheimer's diseas
13	203	91.4	747	2	JH0773	Alzheimer's diseas

14	133	59.9	33	2	S23094	beta-amyloid prote
15	64	28.8	755	2	AI3228	tryptophan 2-monoo
16	62	27.9	755	1	DAAGWT	tryptophan 2-monoo
17	62	27.9	755	1	QQAG4T	tryptophan 2-monoo
18	57	25.7	327	2	S11435	genome polyprotein
19	57	25.7	503	2	S73843	general amino acid
20	56.5	25.5	378	2	S61992	SLG1 protein - yea
21	55.5	25.0	297	2	G69525	formylmethanofuran
22	55.5	25.0	621	2	AF3016	Na+/H+ antiporter
23	55.5	25.0	642	2	B98268	probable sodium/hy
24	55.5	25.0	678	2	G71526	3-methyl-2-oxobuta
25	55	24.8	291	2	F95015	glycosyl transfera
26	55	24.8	317	2	H97888	glycosyl transfera
27	55	24.8	488	2	S27652	probable aldehyde
28	55	24.8	738	2	C95936	conserved hypothet
29	55	24.8	3063	2	JS0166	genome polyprotein
30	54.5	24.5	678	2	C81683	3-methyl-2-oxobuta
31	54.5	24.5	832	2	H84848	phospholipase D [i
32	54	24.3	77	2	C97027	feoA-like protein,
33	54	24.3	284	2	S04723	genome polyprotein
34	54	24.3	316	2	D97865	hypothetical prote
35	54	24.3	322	2	E71647	hypothetical prote
36	54	24.3	763	2	AI3443	Na+/H+ antiporter
37	53.5	24.1	245	2	AH1098	a probable phospho
38	53.5	24.1	245	2	AG1461	probable phospho-b
39	53.5	24.1	708	2	T24727	hypothetical prote
40	53.5	24.1	971	2	D70128	conserved hypothet
41	53	23.9	256	2	G96774	hypothetical prote
42	53	23.9	390	2	C75103	na+/h+ antiporter
43	53	23.9	422	2	D72302	hypothetical prote
44	53	23.9	601	2	T02581	nodulin-like prote
45	53	23.9	1555	2	JT0959	polyprotein - pota

#### ALIGNMENTS

##### RESULT 1

A60045

Alzheimer's disease amyloid beta/A4 protein precursor - dog (fragment)

C;Species: Canis lupus familiaris (dog)

C;Date: 01-Dec-1992 #sequence\_revision 01-Dec-1992 #text\_change 28-Jul-1995

C;Accession: A60045

R;Johnstone, E.M.; Chaney, M.O.; Norris, F.H.; Pascual, R.; Little, S.P.

Brain Res. Mol. Brain Res. 10, 299-305, 1991

A;Title: Conservation of the sequence of the Alzheimer's disease amyloid peptide in dog, polar bear and five other mammals by cross-species polymerase chain reaction analysis.

A;Reference number: A60045; MUID:92017079; PMID:1656157

A;Accession: A60045

A;Molecule type: mRNA

A;Residues: 1-57 <JOH>

A;Cross-references: EMBL:X56125

C;Superfamily: Alzheimer's disease amyloid beta protein; animal Kunitz-type proteinase inhibitor homology

C;Keywords: alternative splicing; Alzheimer's disease; amyloid; brain

Query Match 100.0%; Score 222; DB 2; Length 57;  
Best Local Similarity 100.0%; Pred. No. 3.2e-22;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLFFFAEDVGSNKGAIIGLMVGGVVIAT 43  
|||||  
Db 6 DAEFRHDSGYEVHHQKLFFFAEDVGSNKGAIIGLMVGGVVIAT 48

RESULT 2

F60045

Alzheimer's disease amyloid beta/A4 protein precursor - pig (fragment)

C;Species: Sus scrofa domestica (domestic pig)

C;Date: 01-Dec-1992 #sequence\_revision 01-Dec-1992 #text\_change 13-Aug-1999

C;Accession: F60045

R;Johnstone, E.M.; Chaney, M.O.; Norris, F.H.; Pascual, R.; Little, S.P.

Brain Res. Mol. Brain Res. 10, 299-305, 1991

A;Title: Conservation of the sequence of the Alzheimer's disease amyloid peptide in dog, polar bear and five other mammals by cross-species polymerase chain reaction analysis.

A;Reference number: A60045; MUID:92017079; PMID:1656157

A;Accession: F60045

A;Molecule type: mRNA

A;Residues: 1-57 <JOH>

A;Cross-references: EMBL:X56127; NID:g1895; PIDN:CAA39592.1; PID:g1896

C;Superfamily: Alzheimer's disease amyloid beta protein; animal Kunitz-type proteinase inhibitor homology

C;Keywords: alternative splicing; Alzheimer's disease; amyloid; brain

Query Match 100.0%; Score 222; DB 2; Length 57;  
Best Local Similarity 100.0%; Pred. No. 3.2e-22;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLFFFAEDVGSNKGAIIGLMVGGVVIAT 43  
|||||  
Db 6 DAEFRHDSGYEVHHQKLFFFAEDVGSNKGAIIGLMVGGVVIAT 48

RESULT 3

D60045

Alzheimer's disease amyloid beta/A4 protein precursor - bovine (fragment)

C;Species: Bos primigenius taurus (cattle)

C;Date: 01-Dec-1992 #sequence\_revision 01-Dec-1992 #text\_change 28-Jul-1995

C;Accession: D60045

R;Johnstone, E.M.; Chaney, M.O.; Norris, F.H.; Pascual, R.; Little, S.P.

Brain Res. Mol. Brain Res. 10, 299-305, 1991

A;Title: Conservation of the sequence of the Alzheimer's disease amyloid peptide in dog, polar bear and five other mammals by cross-species polymerase chain reaction analysis.

A;Reference number: A60045; MUID:92017079; PMID:1656157

A;Accession: D60045

A;Molecule type: mRNA

A;Residues: 1-57 <JOH>

A;Cross-references: EMBL:X56124

C;Superfamily: Alzheimer's disease amyloid beta protein; animal Kunitz-type proteinase inhibitor homology

C;Keywords: alternative splicing; Alzheimer's disease; amyloid; brain



Query Match 100.0%; Score 222; DB 2; Length 57;  
Best Local Similarity 100.0%; Pred. No. 3.2e-22;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
|||||  
Db 6 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 48

RESULT 4

E60045

Alzheimer's disease amyloid beta/A4 protein precursor - sheep (fragment)

C;Species: Ovis sp. (sheep)

C;Date: 01-Dec-1992 #sequence\_revision 01-Dec-1992 #text\_change 28-Jul-1995

C;Accession: E60045

R;Johnstone, E.M.; Chaney, M.O.; Norris, F.H.; Pascual, R.; Little, S.P.

Brain Res. Mol. Brain Res. 10, 299-305, 1991

A;Title: Conservation of the sequence of the Alzheimer's disease amyloid peptide in dog, polar bear and five other mammals by cross-species polymerase chain reaction analysis.

A;Reference number: A60045; MUID:92017079; PMID:1656157

A;Accession: E60045

A;Molecule type: mRNA

A;Residues: 1-57 <JOH>

A;Cross-references: EMBL:X56130

C;Superfamily: Alzheimer's disease amyloid beta protein; animal Kunitz-type proteinase inhibitor homology

C;Keywords: alternative splicing; Alzheimer's disease; amyloid; brain

Query Match 100.0%; Score 222; DB 2; Length 57;  
Best Local Similarity 100.0%; Pred. No. 3.2e-22;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
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Db 6 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 48

RESULT 5

G60045

Alzheimer's disease amyloid beta/A4 protein precursor - guinea pig (fragment)

C;Species: Cavia porcellus (guinea pig)

C;Date: 01-Dec-1992 #sequence\_revision 01-Dec-1992 #text\_change 28-Jul-1995

C;Accession: G60045

R;Johnstone, E.M.; Chaney, M.O.; Norris, F.H.; Pascual, R.; Little, S.P.

Brain Res. Mol. Brain Res. 10, 299-305, 1991

A;Title: Conservation of the sequence of the Alzheimer's disease amyloid peptide in dog, polar bear and five other mammals by cross-species polymerase chain reaction analysis.

A;Reference number: A60045; MUID:92017079; PMID:1656157

A;Accession: G60045

A;Molecule type: mRNA

A;Residues: 1-57 <JOH>

A;Cross-references: EMBL:X56126

C;Superfamily: Alzheimer's disease amyloid beta protein; animal Kunitz-type proteinase inhibitor homology

C;Keywords: alternative splicing; Alzheimer's disease; amyloid; brain

Query Match 100.0%; Score 222; DB 2; Length 57;  
Best Local Similarity 100.0%; Pred. No. 3.2e-22;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

|||||

Db 6 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 48

#### RESULT 6

B60045

Alzheimer's disease amyloid beta/A4 protein precursor - polar bear (fragment)

C;Species: Ursus maritimus (polar bear)

C;Date: 01-Dec-1992 #sequence\_revision 01-Dec-1992 #text\_change 09-Jul-2004

C;Accession: B60045

R;Johnstone, E.M.; Chaney, M.O.; Norris, F.H.; Pascual, R.; Little, S.P.

Brain Res. Mol. Brain Res. 10, 299-305, 1991

A;Title: Conservation of the sequence of the Alzheimer's disease amyloid peptide in dog, polar bear and five other mammals by cross-species polymerase chain reaction analysis.

A;Reference number: A60045; MUID:92017079; PMID:1656157

A;Accession: B60045

A;Molecule type: mRNA

A;Residues: 1-57 <JOH>

A;Cross-references: UNIPROT:Q29149; EMBL:X56128; NID:g2165; PIDN:CAA39593.1; PID:g2166

C;Superfamily: Alzheimer's disease amyloid beta protein; animal Kunitz-type proteinase inhibitor homology

C;Keywords: alternative splicing; Alzheimer's disease; amyloid; brain

Query Match 100.0%; Score 222; DB 2; Length 57;  
Best Local Similarity 100.0%; Pred. No. 3.2e-22;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

|||||

Db 6 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 48

#### RESULT 7

PQ0438

Alzheimer's disease amyloid A4 protein precursor - rabbit (fragment)

C;Species: Oryctolagus cuniculus (domestic rabbit)

C;Date: 30-Sep-1993 #sequence\_revision 19-Oct-1995 #text\_change 19-Oct-1995

C;Accession: PQ0438; C60045

R;Davidson, J.S.; West, R.L.; Kotikalapudi, P.; Maroun, L.E.

Biochem. Biophys. Res. Commun. 188, 905-911, 1992

A;Title: Sequence and methylation in the beta/A4 region of the rabbit amyloid precursor protein gene.

A;Reference number: PQ0438; MUID:93075180; PMID:1445331

A;Accession: PQ0438

A;Molecule type: DNA

A;Residues: 1-82 <DAV>

A;Cross-references: GB:M83558; GB:M83657

R;Johnstone, E.M.; Chaney, M.O.; Norris, F.H.; Pascual, R.; Little, S.P.

Brain Res. Mol. Brain Res. 10, 299-305, 1991

A;Title: Conservation of the sequence of the Alzheimer's disease amyloid peptide in dog, polar bear and five other mammals by cross-species polymerase chain reaction analysis.

A;Reference number: A60045; MUID:92017079; PMID:1656157

A;Accession: C60045

A;Molecule type: mRNA

A;Residues: 12-68 <JOH>

A;Cross-references: EMBL:X56129

C;Superfamily: Alzheimer's disease amyloid beta protein; animal Kunitz-type proteinase inhibitor homology

C;Keywords: alternative splicing; Alzheimer's disease; amyloid; Down's syndrome

Query Match 100.0%; Score 222; DB 2; Length 82;  
Best Local Similarity 100.0%; Pred. No. 4.8e-22;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
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Db 17 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 59

#### RESULT 8

A49795

Alzheimer's disease amyloid beta protein precursor - crab-eating macaque

C;Species: Macaca fascicularis (crab-eating macaque)

C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 10-Sep-1999

C;Accession: A49795

R;Podlisny, M.B.; Tolan, D.R.; Selkoe, D.J.

Am. J. Pathol. 138, 1423-1435, 1991

A;Title: Homology of the amyloid beta protein precursor in monkey and human supports a primate model for beta amyloidosis in Alzheimer's disease.

A;Reference number: A49795; MUID:91273117; PMID:1905108

A;Accession: A49795

A;Status: preliminary

A;Molecule type: mRNA

A;Residues: 1-695 <POD>

A;Cross-references: GB:M58727; NID:g342062; PIDN:AAA36829.1; PID:g342063

C;Superfamily: Alzheimer's disease amyloid beta protein; animal Kunitz-type proteinase inhibitor homology

C;Keywords: alternative splicing

Query Match 100.0%; Score 222; DB 1; Length 695;  
Best Local Similarity 100.0%; Pred. No. 5e-21;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
|||||  
Db 597 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 639

#### RESULT 9

QRHUA4

Alzheimer's disease amyloid beta protein precursor [validated] - human

N;Alternate names: Alzheimer's disease amyloid A4 protein; coagulation factor XIa inhibitor; proteinase nexin II (PN-II)

N;Contains: amyloid beta protein long, plaque form; amyloid beta protein short, vascular form; amyloid protein precursor splice form APP(695); amyloid protein precursor splice form APP(751); amyloid protein precursor splice form APP(770)  
C;Species: Homo sapiens (man)  
C;Date: 30-Jun-1987 #sequence\_revision 28-Jul-1995 #text\_change 15-Sep-2000  
C;Accession: S02260; S05194; A32277; A33260; A35486; I39452; I39451; I39453; I59562; A44017; B44017; A03134; A29030; A47584; A47585; S02638; S00707; S00925; A38949; A30320; B30320; C30320; A31087; A24668; A28583; A29302; A60805; JL0038; S06121; A60355; A59011; A38384; S29076; S38252; S32539; S48148; S48692; S51186; S51185; S51184; S51183; A54238; I58075; I52250; S09010; S10737; S24127; S43644  
R;Lemaire, H.G.; Salbaum, J.M.; Multhaup, G.; Kang, J.; Bayney, R.M.; Unterbeck, A.; Beyreuther, K.; Mueller-Hill, B.  
Nucleic Acids Res. 17, 517-522, 1989  
A;Title: The PreA4(695) precursor protein of Alzheimer's disease A4 amyloid is encoded by 16 exons.  
A;Reference number: S02260; MUID:89128427; PMID:2783775  
A;Accession: S02260  
A;Molecule type: DNA  
A;Residues: 1-288,'V',365-770 <LEM1>  
A;Cross-references: EMBL:X13466  
A;Note: alternative splice form APP(695)  
R;Lemaire, H.G.  
submitted to the EMBL Data Library, November 1988  
A;Reference number: S05194  
A;Accession: S05194  
A;Molecule type: DNA  
A;Residues: 1-14,'VW',17-288,'V',365-770 <LEM2>  
A;Cross-references: EMBL:X13466; NID:g35598; PIDN:CAA31830.1; PID:g871360  
A;Note: alternative splice form APP(695)  
R;La Fauci, G.; Lahiri, D.K.; Salton, S.R.J.; Robakis, N.K.  
Biochem. Biophys. Res. Commun. 159, 297-304, 1989  
A;Title: Characterization of the 5'-end region and the first two exons of the beta-protein precursor gene.  
A;Reference number: A32277; MUID:89165870; PMID:2538123  
A;Accession: A32277  
A;Molecule type: DNA  
A;Residues: 1-75 <LAF>  
A;Cross-references: GB:M24546; GB:M24547; NID:g341202; PIDN:AAC13654.1; PID:g516074  
R;Johnstone, E.M.; Chaney, M.O.; Moore, R.E.; Ward, K.E.; Norris, F.H.; Little, S.P.  
Biochem. Biophys. Res. Commun. 163, 1248-1255, 1989  
A;Title: Alzheimer's disease amyloid peptide is encoded by two exons and shows similarity to soybean trypsin inhibitor.  
A;Reference number: A33260; MUID:89392030; PMID:2675837  
A;Accession: A33260  
A;Molecule type: DNA  
A;Residues: 656-737 <JOH>  
A;Cross-references: GB:M29270; NID:g178863; PIDN:AAA51768.1; PID:g178865  
R;Prelli, F.; Levy, E.; van Duinen, S.G.; Bots, G.T.A.M.; Luyendijk, W.; Frangione, B.  
Biochem. Biophys. Res. Commun. 170, 301-307, 1990  
A;Title: Expression of a normal and variant Alzheimer's beta-protein gene in amyloid of hereditary cerebral hemorrhage, Dutch type: DNA and protein diagnostic assays.  
A;Reference number: A35486; MUID:90321244; PMID:2196878  
A;Accession: A35486

A;Molecule type: DNA  
 A;Residues: 672-710 <PRE1>  
 A;Note: 693-Gln was found in DNA isolated from HCHWA-D patients  
 R;Yoshikai, S.I.; Sasaki, H.; Doh-ura, K.; Furuya, H.; Sakaki, Y.  
 Gene 87, 257-263, 1990  
 A;Title: Genomic organization of the human amyloid beta-protein precursor gene.  
 A;Reference number: I39451; MUID:90236318; PMID:2110105  
 A;Accession: I39452  
 A;Status: nucleic acid sequence not shown; translation not shown; translated  
 from GB/EMBL/DDBJ  
 A;Molecule type: DNA  
 A;Residues: 1-770 <YOS1>  
 A;Cross-references: GB:M33112; NID:g178613; PIDN:AAB59502.1; PID:g178616  
 A;Accession: I39451  
 A;Status: nucleic acid sequence not shown; translation not shown; translated  
 from GB/EMBL/DDBJ  
 A;Molecule type: DNA  
 A;Residues: 1-530,'QWLMPVIPAFWEAKVGR' <YOS2>  
 A;Cross-references: GB:M34875; NID:g178608; PIDN:AAB59501.1; PID:g178615  
 R;Yoshikai, S.I.; Sasaki, H.; Doh-ura, K.; Furuya, H.; Sakaki, Y.  
 Gene 102, 291-292, 1991  
 A;Reference number: A59020; MUID:91340168; PMID:1908403  
 A;Contents: annotation; erratum  
 A;Note: revised physical map for reference I39451  
 R;Levy, E.; Carman, M.D.; Fernandez-Madrid, I.J.; Power, M.D.; Lieberburg, I.;  
 van Duinen, S.G.; Bots, G.T.; Luyendijk, W.; Frangione, B.  
 Science 248, 1124-1126, 1990  
 A;Title: Mutation of the Alzheimer's disease amyloid gene in hereditary cerebral  
 hemorrhage, Dutch type.  
 A;Reference number: I39453; MUID:90260663; PMID:2111584  
 A;Accession: I39453  
 A;Status: translated from GB/EMBL/DDBJ  
 A;Molecule type: DNA  
 A;Residues: 656-737 <LEV>  
 A;Cross-references: GB:M37896; NID:g178618; PIDN:AAA51727.1; PID:g178620  
 A;Note: a mutation with 693-Gln is presented  
 R;Murrell, J.; Farlow, M.; Ghetti, B.; Benson, M.D.  
 Science 254, 97-99, 1991  
 A;Title: A mutation in the amyloid precursor protein associated with hereditary  
 Alzheimer's disease.  
 A;Reference number: I59562; MUID:92022553; PMID:1925564  
 A;Accession: I59562  
 A;Status: translated from GB/EMBL/DDBJ  
 A;Molecule type: DNA  
 A;Residues: 689-716,'F',718-737 <MUR>  
 A;Cross-references: GB:S57665; NID:g236720; PIDN:AAB19991.1; PID:g236721  
 R;Kamino, K.; Orr, H.T.; Payami, H.; Wijsman, E.M.; Alonso, M.E.; Pulst, S.M.;  
 Anderson, L.; O'dahl, S.; Nemens, E.; White, J.A.; Sadovnick, A.D.; Ball, M.J.;  
 Kaye, J.; Warren, A.; McInnis, M.; Antonarakis, S.E.; Korenberg, J.R.; Sharma,  
 V.; Kukull, W.; Larson, E.; Heston, L.L.; Martin, G.M.; Bird, T.D.;  
 Schellenberg, G.D.  
 Am. J. Hum. Genet. 51, 998-1014, 1992  
 A;Title: Linkage and mutational analysis of familial Alzheimer disease kindreds  
 for the APP gene region.  
 A;Reference number: A44017; MUID:93035397; PMID:1415269  
 A;Accession: A44017  
 A;Molecule type: DNA

A;Residues: 687-692,'G',694-718 <KAM1>  
 A;Cross-references: GB:S45135; NID:g257377; PIDN:AAB23645.1; PID:g257378  
 A;Experimental source: familial Alzheimer disease family SB  
 A;Note: sequence extracted from NCBI backbone (NCBIP:115374)  
 A;Accession: B44017  
 A;Molecule type: DNA  
 A;Residues: 687-718 <KAM2>  
 A;Cross-references: GB:S45136; NID:g257379; PIDN:AAB23646.1; PID:g257380  
 A;Experimental source: familial Alzheimer disease family LIT  
 A;Note: sequence extracted from NCBI backbone (NCBIP:115376)  
 A;Note: this sequence has a silent mutation  
 R;Kang, J.; Lemaire, H.G.; Unterbeck, A.; Salbaum, J.M.; Masters, C.L.;  
 Grzeschik, K.H.; Multhaup, G.; Beyreuther, K.; Muller-Hill, B.  
 Nature 325, 733-736, 1987  
 A;Title: The precursor of Alzheimer's disease amyloid A4 protein resembles a  
 cell-surface receptor.  
 A;Reference number: A03134; MUID:87144572; PMID:2881207  
 A;Accession: A03134  
 A;Molecule type: mRNA  
 A;Residues: 1-288,'V',365-770 <KAN>  
 A;Cross-references: GB:Y00264; NID:g28525; PIDN:CAA68374.1; PID:g28526  
 A;Note: alternative splice form APP(695)  
 R;Robakis, N.K.; Ramakrishna, N.; Wolfe, G.; Wisniewski, H.M.  
 Proc. Natl. Acad. Sci. U.S.A. 84, 4190-4194, 1987  
 A;Title: Molecular cloning and characterization of a cDNA encoding the  
 cerebrovascular and the neuritic plaque amyloid peptides.  
 A;Reference number: A29030; MUID:87231971; PMID:3035574  
 A;Accession: A29030  
 A;Molecule type: mRNA  
 A;Residues: 284-288,'V',365-646,'E',648-770 <ROB>  
 A;Cross-references: GB:M16765; NID:g178539; PIDN:AAA51722.1; PID:g178540  
 A;Note: the authors translated the codon GAG for residue 647 as Asp  
 R;Goldgaber, D.; Lerman, M.I.; McBride, O.W.; Saffiotti, U.; Gajdusek, D.C.  
 Science 235, 877-880, 1987  
 A;Title: Characterization and chromosomal localization of a cDNA encoding brain  
 amyloid of Alzheimer's disease.  
 A;Reference number: A47584; MUID:87120328; PMID:3810169  
 A;Accession: A47584  
 A;Molecule type: mRNA  
 A;Residues: 674-756,'S',758-770 <GOL>  
 A;Cross-references: GB:M15533; NID:g178706; PIDN:AAA35540.1; PID:g178707  
 A;Experimental source: brain  
 R;Tanzi, R.E.; Gusella, J.F.; Watkins, P.C.; Bruns, G.A.P.; St George-Hyslop,  
 P.; Van Keuren, M.L.; Patterson, D.; Pagan, S.; Kurnit, D.M.; Neve, R.L.  
 Science 235, 880-884, 1987  
 A;Title: Amyloid beta protein gene: cDNA, mRNA distribution, and genetic linkage  
 near the Alzheimer locus.  
 A;Reference number: A47585; MUID:87120329; PMID:2949367  
 A;Accession: A47585  
 A;Molecule type: mRNA  
 A;Residues: 674-703 <TAN1>  
 A;Cross-references: GB:M15532; NID:g177957; PIDN:AAA51564.1; PID:g177958  
 R;Dyrks, T.; Weidemann, A.; Multhaup, G.; Salbaum, J.M.; Lemaire, H.G.; Kang,  
 J.; Mueller-Hill, B.; Masters, C.L.; Beyreuther, K.  
 EMBO J. 7, 949-957, 1988  
 A;Title: Identification, transmembrane orientation and biogenesis of the amyloid  
 A4 precursor of Alzheimer's disease.

A;Reference number: S02638; MUID:88296437; PMID:2900137  
 A;Accession: S02638  
 A;Molecule type: mRNA  
 A;Residues: 672-678 <DYZ>  
 R;Tanzi, R.E.; McClatchey, A.I.; Lamperti, E.D.; Villa-Komaroff, L.; Gusella, J.F.; Neve, R.L.  
 Nature 331, 528-530, 1988  
 A;Title: Protease inhibitor domain encoded by an amyloid protein precursor mRNA associated with Alzheimer's disease.  
 A;Reference number: S00707; MUID:88122640; PMID:2893290  
 A;Accession: S00707  
 A;Molecule type: mRNA  
 A;Residues: 286-344,'I',365-366 <TAN2>  
 A;Cross-references: EMBL:X06982; NID:g28817; PIDN:CAA30042.1; PID:g929612  
 A;Experimental source: promyelocytic leukemia cell line HL60  
 A;Note: alternative splice form APP(751)  
 R;Ponte, P.; Gonzalez-DeWhitt, P.; Schilling, J.; Miller, J.; Hsu, D.; Greenberg, B.; Davis, K.; Wallace, W.; Lieberburg, I.; Fuller, F.; Cordell, B.  
 Nature 331, 525-527, 1988  
 A;Title: A new A4 amyloid mRNA contains a domain homologous to serine proteinase inhibitors.  
 A;Reference number: S00925; MUID:88122639; PMID:2893289  
 A;Accession: S00925  
 A;Molecule type: mRNA  
 A;Residues: 1-344,'I',365-770 <PO2>  
 A;Cross-references: GB:X06989; EMBL:Y00297; NID:g28720; PIDN:CAA30050.1; PID:g28721  
 A;Note: alternative splice form APP(751)  
 R;Kitaguchi, N.; Takahashi, Y.; Tokushima, Y.; Shiojiri, S.; Ito, H.  
 Nature 331, 530-532, 1988  
 A;Title: Novel precursor of Alzheimer's disease amyloid protein shows protease inhibitory activity.  
 A;Reference number: A38949; MUID:88122641; PMID:2893291  
 A;Accession: A38949  
 A;Molecule type: mRNA  
 A;Residues: 287-367 <KIT>  
 A;Cross-references: GB:X06981; NID:g28816; PIDN:CAA30041.1; PID:g929611  
 A;Experimental source: glioblastoma cell line  
 A;Note: alternative splice form APP(770)  
 R;Vitek, M.P.; Rasool, C.G.; de Sauvage, F.; Vitek, S.M.; Bartus, R.T.; Beer, B.; Ashton, R.A.; Macq, A.F.; Maloteaux, J.M.; Blume, A.J.; Octave, J.N.  
 Brain Res. Mol. Brain Res. 4, 121-131, 1988  
 A;Title: Absence of mutation in the beta-amyloid cDNAs cloned from the brains of three patients with sporadic Alzheimer's disease.  
 A;Reference number: A30320  
 A;Accession: A30320  
 A;Status: not compared with conceptual translation  
 A;Molecule type: mRNA  
 A;Residues: 284-288,'V',365-770 <VIT1>  
 A;Accession: B30320  
 A;Status: not compared with conceptual translation  
 A;Molecule type: mRNA  
 A;Residues: 122-288,'V',365-770 <VIT2>  
 A;Accession: C30320  
 A;Status: not compared with conceptual translation  
 A;Molecule type: mRNA  
 A;Residues: 606-770 <VIT3>

R;Zain, S.B.; Salim, M.; Chou, W.G.; Sajdel-Sulkowska, E.M.; Majocha, R.E.; Marotta, C.A.  
 Proc. Natl. Acad. Sci. U.S.A. 85, 929-933, 1988  
 A;Title: Molecular cloning of amyloid cDNA derived from mRNA of the Alzheimer disease brain: coding and noncoding regions of the fetal precursor mRNA are expressed in the cortex.  
 A;Reference number: A31087; MUID:88124954; PMID:2893379  
 A;Accession: A31087  
 A;Molecule type: mRNA  
 A;Residues: 507-770 <ZAI>  
 A;Cross-references: GB:M18734; NID:gl78572; PIDN:AAA51726.1; PID:gl78573  
 A;Note: the authors translated the codon GAA for residue 599 as Gly, ACC for residue 603 as Val, GTG for residue 604 as Glu, GAG for residue 605 as Leu, CTT for residue 607 as Pro, CCC for residue 608 as Val, GTG for residue 609 as Asn, AAT for residue 610 as Gly, and GGT for residue 655 as Ser  
 A;Note: the cited Genbank accession number, J03594, is not in release 101.0  
 R;Masters, C.L.; Multhaup, G.; Simms, G.; Pottgiesser, J.; Martins, R.N.; Beyreuther, K.

Query Match 100.0%; Score 222; DB 1; Length 770;  
 Best Local Similarity 100.0%; Pred. No. 5.6e-21;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
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 Db 672 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 714

# RESULT 10

PN0512

beta-amyloid protein - guinea pig (fragment)

C;Species: Cavia porcellus (guinea pig)

C;Date: 31-Dec-1993 #sequence\_revision 31-Dec-1993 #text\_change 09-Jul-2004

C;Accession: PN0512

R;Shimohigashi, Y.; Matsumoto, H.; Takano, Y.; Saito, R.; Iwata, T.; Kamiya, H.; Ohno, M.

Biochem. Biophys. Res. Commun. 193, 624-630, 1993

A;Title: Receptor-mediated specific biological activity of a beta-amyloid protein fragment for NK-1 substance p receptors.

A;Reference number: PN0512; MUID:93290653; PMID:7685598

A;Accession: PN0512

A;Molecule type: protein

A;Residues: 1-42 <SHI>

A;Cross-references: UNIPROT:Q7M088

C;Superfamily: Alzheimer's disease amyloid beta protein; animal Kunitz-type proteinase inhibitor homology

C;Keywords: alternative splicing; amyloid

Query Match 97.7%; Score 217; DB 2; Length 42;  
 Best Local Similarity 100.0%; Pred. No. 1e-21;  
 Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA 42  
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 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA 42



## A27485

Query Match 91.4%; Score 203; DB 2; Length 695;  
Best Local Similarity 93.0%; Pred. No. 1.5e-18;  
Matches 40; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

RESULT 12

Alzheimer's disease amyloid beta protein precursor - rat  
N;Alternate names: beta-A4 amyloid protein





tryptophan 2-monooxygenase tms1 [imported] - Agrobacterium tumefaciens (strain C58, Dupont) plasmid Ti  
 C;Species: Agrobacterium tumefaciens  
 C;Date: 11-Jan-2002 #sequence\_revision 11-Jan-2002 #text\_change 16-Aug-2004  
 C;Accession: AI3228  
 R;Wood, D.W.; Setubal, J.C.; Kaul, R.; Monks, D.; Chen, L.; Wood, G.E.; Chen, Y.; Woo, L.; Kitajima, J.P.; Okura, V.K.; Almeida Jr., N.F.; Zhou, Y.; Bovee Sr., D.; Chapman, P.; Clendenning, J.; Deatherage, G.; Gillet, W.; Grant, C.; Guenther, D.; Kutayavin, T.; Levy, R.; Li, M.; McClelland, E.; Palmieri, A.; Raymond, C.; Rouse, G.; Saenphimmachak, C.; Wu, Z.; Gordon, D.; Eisen, J.A.; Paulsen, I.; Karp, P.; Romero, P.; Zhang, S.  
 Science 294, 2317-2323, 2001  
 A;Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, M.; Krespan, W.; Perry, M.; Gordon-Kamm, B.; Liao, L.; Kim, S.; Hendrick, C.; Zhao, Z.; Dolan, M.; Tingey, S.V.; Tomb, J.; Gordon, M.P.; Olson, M.V.; Nester, E.W.  
 A;Title: The Genome of the Natural Genetic Engineer Agrobacterium tumefaciens C58.  
 A;Reference number: AB2577; MUID:21608550; PMID:11743193  
 A;Accession: AI3228  
 A;Status: preliminary  
 A;Molecule type: DNA  
 A;Residues: 1-755 <KUR>  
 A;Cross-references: UNIPROT:Q8U6A3; GB:AE008690; PIDN:AAL46247.1; PID:g17744025; GSPDB:GN00189  
 A;Experimental source: strain C58 (Dupont)  
 C;Genetics:  
 A;Gene: tms1  
 A;Genome: plasmid  
 C;Superfamily: Tryptophan 2-monooxygenase

Query Match 28.8%; Score 64; DB 2; Length 755;  
 Best Local Similarity 43.2%; Pred. No. 2.7;  
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OM protein - protein search, using sw model

Run on: November 19, 2004, 16:58:33 ; Search time 179.319 Seconds  
(without alignments)  
84.918 Million cell updates/sec

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Perfect score: 222  
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Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1570615 seqs, 354127592 residues

Total number of hits satisfying chosen parameters: 1570615

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications AA:\*  
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	222	100.0	43	9	US-09-280-966-1	Sequence 1, Appli
2	222	100.0	43	9	US-09-904-987-1	Sequence 1, Appli
3	222	100.0	43	9	US-09-808-037-3	Sequence 3, Appli
4	222	100.0	43	9	US-09-866-712-3	Sequence 3, Appli
5	222	100.0	43	9	US-09-972-475-1	Sequence 1, Appli
6	222	100.0	43	9	US-09-992-800-1	Sequence 1, Appli
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8	222	100.0	43	9	US-09-915-342-1	Sequence 1, Appli
9	222	100.0	43	9	US-09-996-357-1	Sequence 1, Appli
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13	222	100.0	43	10	US-09-942-253-1	Sequence 1, Appli
14	222	100.0	43	13	US-10-041-605-1	Sequence 1, Appli
15	222	100.0	43	13	US-10-076-708-7	Sequence 7, Appli
16	222	100.0	43	13	US-10-051-496-1	Sequence 1, Appli
17	222	100.0	43	14	US-10-217-459-1	Sequence 1, Appli
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19	222	100.0	43	14	US-10-217-584-1	Sequence 1, Appli
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21	222	100.0	43	14	US-10-190-548A-2	Sequence 2, Appli
22	222	100.0	43	14	US-10-335-035-1	Sequence 1, Appli
23	222	100.0	43	14	US-10-267-017-1	Sequence 1, Appli
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27	222	100.0	43	15	US-10-463-729-1	Sequence 1, Appli
28	222	100.0	43	15	US-10-355-700-1	Sequence 1, Appli
29	222	100.0	43	15	US-10-384-788-3	Sequence 3, Appli
30	222	100.0	43	15	US-10-618-856-3	Sequence 3, Appli
31	222	100.0	43	15	US-10-415-383-2	Sequence 2, Appli
32	222	100.0	43	15	US-10-619-454-2	Sequence 2, Appli
33	222	100.0	43	16	US-10-250-581-1	Sequence 1, Appli
34	222	100.0	43	16	US-10-699-517-33	Sequence 33, Appl
35	222	100.0	43	16	US-10-796-522-1	Sequence 1, Appli
36	222	100.0	53	9	US-09-797-543-5	Sequence 5, Appli
37	222	100.0	53	13	US-10-016-717-1	Sequence 1, Appli
38	222	100.0	56	17	US-10-771-174A-16	Sequence 16, Appl
39	222	100.0	56	17	US-10-771-174A-19	Sequence 19, Appl
40	222	100.0	58	17	US-10-771-174A-12	Sequence 12, Appl
41	222	100.0	58	17	US-10-771-174A-14	Sequence 14, Appl
42	222	100.0	58	17	US-10-771-174A-27	Sequence 27, Appl
43	222	100.0	59	9	US-09-975-932-1	Sequence 1, Appli
44	222	100.0	60	17	US-10-771-174A-20	Sequence 20, Appl
45	222	100.0	64	17	US-10-771-174A-13	Sequence 13, Appl

#### ALIGNMENTS

#### RESULT 1

US-09-280-966-1

; Sequence 1, Application US/09280966

; Patent No. US20010020097A1

```

; GENERAL INFORMATION:
;   APPLICANT: JAMES E. AUDIA
;               BEVERLY K. FOLMER
;               VARGHESE JOHN
;               JEFFREY S. NISSEN
;               WARREN J. PORTER
;               EUGENE D. THORSETT
;               JING WU
;   TITLE OF INVENTION: N-(ARYL/HETEROARYLACETYL) AMINO
;                       ACID ESTERS, PHARMACEUTICAL COMPOSITIONS
;                       COMPRISING SAME, AND METHODS FOR INHIBITING
;                       -AMYLOID PEPTIDE RELEASE AND/OR ITS
;   NUMBER OF SEQUENCES: 1
;   CORRESPONDENCE ADDRESS:
;       ADDRESSEE: Burns, Doane, Swecker & Mathis, LLP
;       STREET: P.O. Box 1404
;       CITY: Alexandria
;       STATE: Virginia
;       COUNTRY: U.S.A.
;       ZIP: 22313-1404
;   COMPUTER READABLE FORM:
;       MEDIUM TYPE: Floppy disk
;       COMPUTER: IBM PC compatible
;       OPERATING SYSTEM: PC-DOS/MS-DOS
;       SOFTWARE: PatentIn Release #1.0, Version #1.30
;   CURRENT APPLICATION DATA:
;       APPLICATION NUMBER: US/09/280,966
;       FILING DATE: 30-Mar-1999
;       CLASSIFICATION: <Unknown>
;   PRIOR APPLICATION DATA:
;       APPLICATION NUMBER: 08/976,191
;       FILING DATE: 21 NOV 1997
;       APPLICATION NUMBER: 60/077,175
;       FILING DATE: 22 NOV 1996
;   ATTORNEY/AGENT INFORMATION:
;       NAME: Swiss, Gerald F.
;       REGISTRATION NUMBER: 30,113
;       REFERENCE/DOCKET NUMBER: 002010-335
;   TELECOMMUNICATION INFORMATION:
;       TELEPHONE: 650-622-2300
;       TELEFAX: 650-622-2499
;   INFORMATION FOR SEQ ID NO: 1:
;       SEQUENCE CHARACTERISTICS:
;           LENGTH: 43 amino acids
;           TYPE: amino acid
;           TOPOLOGY: linear
;       MOLECULE TYPE: peptide
;       SEQUENCE DESCRIPTION: SEQ ID NO: 1:
US-09-280-966-1

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Query Match      100.0%; Score 222; DB 9; Length 43;
Best Local Similarity 100.0%; Pred. No. 7.6e-23;
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RESULT 2

US-09-904-987-1

; Sequence 1, Application US/09904987  
 ; Patent No. US20020037908A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: No. US20020037908Alactyl, Inc.  
 ; TITLE OF INVENTION: Methods and Compositions for Controlling Pathological and  
 Prepathological  
 ; TITLE OF INVENTION: Protein Assembly or Aggregation  
 ; FILE REFERENCE: 42108/26146  
 ; CURRENT APPLICATION NUMBER: US/09/904,987  
 ; CURRENT FILING DATE: 2001-07-12  
 ; NUMBER OF SEQ ID NOS: 7  
 ; SOFTWARE: PatentIn version 3.0  
 ; SEQ ID NO 1  
 ; LENGTH: 43  
 ; TYPE: PRT  
 ; ORGANISM: homo sapiens  
 ; PUBLICATION INFORMATION:  
 ; DATABASE ACCESSION NUMBER: NCBI ENTREZ / QRHUA4  
 ; DATABASE ENTRY DATE: 2000-09-15  
 ; RELEVANT RESIDUES: (672)..(714)  
 US-09-904-987-1

Query Match 100.0%; Score 222; DB 9; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 7.6e-23;  
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 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

RESULT 3

US-09-808-037-3

; Sequence 3, Application US/09808037  
 ; Patent No. US20020052311A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: SOLOMON, Beka  
 ; APPLICANT: HANAN, Eilat  
 ; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR THE TREATMENT AND/OR  
 DIAGNOSIS OF  
 ; TITLE OF INVENTION: NEUROLOGICAL DISEASES AND DISORDERS  
 ; FILE REFERENCE: SOLOMON=2D  
 ; CURRENT APPLICATION NUMBER: US/09/808,037  
 ; CURRENT FILING DATE: 2001-03-15  
 ; PRIOR APPLICATION NUMBER: 09/629,971  
 ; PRIOR FILING DATE: 2000-07-31  
 ; PRIOR APPLICATION NUMBER: US 09/473,653  
 ; PRIOR FILING DATE: 1999-12-29  
 ; PRIOR APPLICATION NUMBER: US 60/152,417  
 ; PRIOR FILING DATE: 1999-09-03  
 ; NUMBER OF SEQ ID NOS: 33  
 ; SOFTWARE: PatentIn version 3.0  
 ; SEQ ID NO 3









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; STREET: 28 State Street
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109-1784
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/895,443
; FILING DATE: 29-Jun-2001
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 09/356,931
; FILING DATE: <Unknown>
; APPLICATION NUMBER: 08/897,342
; FILING DATE: 21-JUL-1997
; APPLICATION NUMBER: USSN 08/703,675
; FILING DATE: 27-AUG-1996
; APPLICATION NUMBER: USSN 08/616,081
; FILING DATE: 14-MAR-1996
; APPLICATION NUMBER: USSN 08/548,998
; FILING DATE: 27-OCT-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: DeConti, Jr., Giulio A.
; REGISTRATION NUMBER: 31,503
; REFERENCE/DOCKET NUMBER: PPI-016CP4CN
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)227-7400
; TELEFAX: (617)742-4214
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 43 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FRAGMENT TYPE: internal
; SEQUENCE DESCRIPTION: SEQ ID NO: 1:
US-09-895-443-1

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Query Match          100.0%; Score 222; DB 9; Length 43;
Best Local Similarity 100.0%; Pred. No. 7.6e-23;
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db      1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

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RESULT 8
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; Sequence 1, Application US/09915342
; Publication No. US20020123486A1
; GENERAL INFORMATION:
; APPLICANT: Wu, Jing

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; APPLICANT: Tung, Jay S.  
 ; APPLICANT: Thorsett, Eugene D.  
 ; APPLICANT: Nissen, Jeffrey S.  
 ; APPLICANT: Neitz, Jeffrey  
 ; APPLICANT: Latimer, Lee H.  
 ; APPLICANT: John, Varghese  
 ; APPLICANT: Britton, Thomas C.  
 ; APPLICANT: Audia, James A.  
 ; APPLICANT: Reel, Jon K.  
 ; APPLICANT: Mabry, Thomas E.  
 ; APPLICANT: Cwi, Cynthia L.  
 ; APPLICANT: McDaniel, Stacey L.  
 ; APPLICANT: Scott, William Leonard  
 ; TITLE OF INVENTION: Cycloalkyl, Lactam, Lactone and Related Compounds,  
 ; TITLE OF INVENTION: Pharmaceutical Compositions Comprising Same, and  
 ; TITLE OF INVENTION: Methods of Inhibiting Beta-Amyloid Peptide Release  
 ; TITLE OF INVENTION: and/or its Synthesis by Use of Such Compounds  
 ; FILE REFERENCE: 002010-062  
 ; CURRENT APPLICATION NUMBER: US/09/915,342  
 ; CURRENT FILING DATE: 2001-07-27  
 ; PRIOR APPLICATION NUMBER: US/08/996,422  
 ; PRIOR FILING DATE: 1997-12-22  
 ; PRIOR APPLICATION NUMBER: US 60/064,851  
 ; PRIOR FILING DATE: 1996-12-23  
 ; NUMBER OF SEQ ID NOS: 1  
 ; SOFTWARE: FastSEQ for Windows Version 4.0  
 ; SEQ ID NO 1  
 ; LENGTH: 43  
 ; TYPE: PRT  
 ; ORGANISM: Artificial Sequence  
 ; FEATURE:  
 ; OTHER INFORMATION: beta-amyloid precursor protein (APP)  
 US-09-915-342-1

Query Match 100.0%; Score 222; DB 9; Length 43;  
 Best Local Similarity 100.0%; Pred. No. 7.6e-23;  
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 Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

RESULT 9  
 US-09-996-357-1  
 ; Sequence 1, Application US/09996357  
 ; Patent No. US20020133001A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Gefter, Malcolm L  
 ; APPLICANT: Isreal, David I  
 ; APPLICANT: Joyal, John L  
 ; APPLICANT: Gosselin, Michael  
 ; TITLE OF INVENTION: THERAPEUTIC AGENTS AND METHODS OF USE THEREOF FOR  
 ; TITLE OF INVENTION: TREATING AN AMYLOIDOGENIC DISEASE  
 ; FILE REFERENCE: PPI-105  
 ; CURRENT APPLICATION NUMBER: US/09/996,357  
 ; CURRENT FILING DATE: 2001-11-27



; Patent No. US20020137743A1  
; GENERAL INFORMATION:  
; APPLICANT: JING WU  
; EUGENE D. THORSETT  
; JEFFREY S. NISSEN  
; THOMAS E. MABRY  
; LEE H. LATIMER  
; VARGHESE JOHN  
; LAWRENCE Y. FANG  
; JAMES E. AUDIA  
; TITLE OF INVENTION: N-(ARYL/HETEROARYLACETYL)  
; AMINO ACID ESTERS, PHARMACEUTICAL  
; COMPOSITIONS COMPRISING SAME, AND  
; METHODS FOR INHIBITING BETA-AMYLOID  
; NUMBER OF SEQUENCES: 1  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Burns, Doane, Swecker &  
; Mathis, LLP  
; STREET: P.O. Box 1404  
; CITY: Alexandria  
; STATE: Virginia  
; COUNTRY: U.S.A.  
; ZIP: 22313-1404  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version  
; #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/984,834  
; FILING DATE: 31-Oct-2001  
; CLASSIFICATION: <Unknown>  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: 08/976,179  
; FILING DATE: <Unknown>  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Swiss, Gerald F.  
; REGISTRATION NUMBER: 30,113  
; REFERENCE/DOCKET NUMBER: 002010-050  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 650-622-2300  
; TELEFAX: 650-622-2499  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 43 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
; SEQUENCE DESCRIPTION: SEQ ID NO: 1:  
US-09-984-834-1

Query Match 100.0%; Score 222; DB 9; Length 43;  
Best Local Similarity 100.0%; Pred. No. 7.6e-23;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43





Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
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Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

RESULT 13

US-09-942-253-1  
; Sequence 1, Application US/09942253  
; Publication No. US20030082191A1  
; GENERAL INFORMATION:  
; APPLICANT: Poduslo, Joseph F.  
; APPLICANT: Curran, Geoffry L.  
; TITLE OF INVENTION: TREATMENT FOR CENTRAL NERVOUS SYSTEM DISORDERS  
; FILE REFERENCE: 07039-351001  
; CURRENT APPLICATION NUMBER: US/09/942,253  
; CURRENT FILING DATE: 2001-08-29  
; NUMBER OF SEQ ID NOS: 1  
; SOFTWARE: FastSEQ for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 43  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-942-253-1

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Best Local Similarity 100.0%; Pred. No. 7.6e-23;  
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|||||  
Db 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43

RESULT 14

US-10-041-605-1  
; Sequence 1, Application US/10041605  
; Publication No. US20020115223A1  
; GENERAL INFORMATION:  
; APPLICANT: Tanzi, Rudolph E.  
; APPLICANT: Bush, Ashley I.  
; TITLE OF INVENTION: An In Vitro System For Determining Formation of A  
Amyloid  
; FILE REFERENCE: 0609.4100001  
; CURRENT APPLICATION NUMBER: US/10/041,605  
; CURRENT FILING DATE: 2002-01-10  
; PRIOR APPLICATION NUMBER: US 08/294,819  
; PRIOR FILING DATE: 1994-08-26  
; NUMBER OF SEQ ID NOS: 1  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 1  
; LENGTH: 43  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-041-605-1

Query Match 100.0%; Score 222; DB 13; Length 43;  
Best Local Similarity 100.0%; Pred. No. 7.6e-23;

Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 15

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; Sequence 7, Application US/10076708
; Publication No. US20020164657A1
; GENERAL INFORMATION:
; APPLICANT: Sharma, Satish
; APPLICANT: Rank, Kenneth
; TITLE OF INVENTION: Assays for Accessing Aa-Tau Aggregation
; FILE REFERENCE: 6322
; CURRENT APPLICATION NUMBER: US/10/076,708
; CURRENT FILING DATE: 2002-02-15
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 7
; LENGTH: 43
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-076-708-7
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OM protein - protein search, using sw model

Run on: November 19, 2004, 16:35:27 ; Search time 230.553 Seconds  
 (without alignments)  
 107.312 Million cell updates/sec

Title: US-09-830-954A-3  
 Perfect score: 222  
 Sequence: 1 DAEFRHDSGYEVHHQKLVFF.....VGSNKGAIIGLMVGGVVIAT 43

Scoring table: BLOSUM62  
 Gapop 10.0 , Gapext 0.5

Searched: 1825181 seqs, 575374646 residues

Total number of hits satisfying chosen parameters: 1825181

Minimum DB seq length: 0  
 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
 Maximum Match 100%  
 Listing first 45 summaries

Database : UniProt\_02:\*  
 1: uniprot\_sprot:\*  
 2: uniprot\_trembl:\*

Pred. No. is the number of results predicted by chance to have a  
 score greater than or equal to the score of the result being printed,  
 and is derived by analysis of the total score distribution.

# SUMMARIES

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No.	Score	Match	Length	DB	ID	Description	
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2	222	100.0	58	1	A4_CANFA	Q28280 canis famil	
3	222	100.0	58	1	A4_RABIT	Q28748 oryctolagus	
4	222	100.0	58	1	A4_SHEEP	Q28757 ovis aries	
5	222	100.0	59	1	A4_BOVIN	Q28053 bos taurus	
6	222	100.0	113	2	Q8JH58	Q8jh58 chelydra se	
7	222	100.0	534	2	O93296	O93296 gallus gall	
8	222	100.0	695	2	Q6RH29	Q6rh29 canis famil	
9	222	100.0	695	2	Q9DGJ8	Q9dgj8 gallus gall	
10	222	100.0	695	2	AAR97727	Aar97727 canis fam	
11	222	100.0	751	1	A4_SAISC	Q95241 s amyloid b	
12	222	100.0	751	2	Q6RH28	Q6rh28 canis famil	
13	222	100.0	751	2	Q9DGJ7	Q9dgj7 gallus gall	
14	222	100.0	751	2	AAR97728	Aar97728 canis fam	
15	222	100.0	751	2	AAH65529	Aah65529 homo sapi	

16	222	100.0	770	1	A4_CAVPO	Q60495	c amyloid b
17	222	100.0	770	1	A4_HUMAN	P05067	h amyloid b
18	222	100.0	770	1	A4_MACFA	P53601	m amyloid b
19	222	100.0	770	1	A4_PIG	P79307	s amyloid b
20	222	100.0	770	2	Q6RH30	Q6rh30	canis famil
21	222	100.0	770	2	AAR97726	Aar97726	canis fam
22	217	97.7	42	2	Q7M088	Q7m088	cavia porce
23	217	97.7	569	2	Q9PVL1	Q9pvl1	gallus gall
24	203	91.4	79	2	O35463	O35463	cricetulus
25	203	91.4	218	2	Q8BPV5	Q8bpv5	mus musculu
26	203	91.4	384	2	Q8BPC7	Q8bpc7	mus musculu
27	203	91.4	693	2	Q98SG0	Q98sg0	xenopus lae
28	203	91.4	695	2	AAH70409	Aah70409	mus muscu
29	203	91.4	733	2	Q6P6Q5	Q6p6q5	rattus norv
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31	203	91.4	747	2	Q91963	Q91963	xenopus. ap
32	203	91.4	749	2	Q6NRR1	Q6nrr1	xenopus lae
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34	203	91.4	750	2	Q6DJB6	Q6djb6	xenopus tro
35	203	91.4	770	1	A4_MOUSE	P12023	m amyloid b
36	203	91.4	770	1	A4_RAT	P08592	r amyloid b
37	203	91.4	770	2	AAM90259	Aam90259	rattus no
38	203	91.4	770	2	AAP23169	Aap23169	mus muscu
39	200	90.1	695	2	Q7ZXQ0	Q7zxq0	xenopus lae
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41	193	86.9	699	2	O57394	O57394	narke japon
42	180	81.1	780	1	A4_TETFL	O73683	tetraodon f
43	176	79.3	33	2	Q9UC33	Q9uc33	homo sapien
44	176	79.3	737	1	A4_FUGRU	O93279	fugu rubrip
45	162.5	73.2	357	2	Q8UUI8	Q8uui8	brachydanio

# ALIGNMENTS

## RESULT 1

A4\_URSMA

ID A4\_URSMA STANDARD; PRT; 57 AA.

AC Q29149;

DT 01-NOV-1997 (Rel. 35, Created)

DT 01-NOV-1997 (Rel. 35, Last sequence update)

DT 05-JUL-2004 (Rel. 44, Last annotation update)

DE Alzheimer's disease amyloid A4 protein homolog [Contains: Beta-amyloid protein (Beta-APP) (A-beta)] (Fragment).

GN Name=APP;

OS Ursus maritimus (Polar bear) (Thalarctos maritimus).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Carnivora; Fissipedia; Ursidae; Ursus.

OX NCBI\_TaxID=29073;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Brain;

RX MEDLINE=92017079; PubMed=1656157;

RA Johnstone E.M., Chaney M.O., Norris F.H., Pascual R., Little S.P.;

RT "Conservation of the sequence of the Alzheimer's disease amyloid

peptide in dog, polar bear and five other mammals by cross-species

polymerase chain reaction analysis.";

RL Brain Res. Mol. Brain Res. 10:299-305(1991).

CC -!- FUNCTION: Functional neuronal receptor which couples to  
 CC intracellular signaling pathway through the GTP-binding protein  
 CC G(O) (By similarity).

CC -!- SUBCELLULAR LOCATION: Type I membrane protein.

CC -!- SIMILARITY: Belongs to the APP family.

CC -----

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 CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).

CC -----

DR EMBL; X56128; CAA39593.1; -.  
 DR PIR; B60045; B60045.  
 DR HSSP; P08592; 1NMJ.  
 DR InterPro; IPR008155; A4\_APP.  
 DR InterPro; IPR001255; Beta-APP.  
 DR Pfam; PF03494; Beta-APP; 1.  
 DR PRINTS; PR00204; BETAAMYLOID.  
 DR PROSITE; PS00319; A4\_EXTRA; PARTIAL.  
 DR PROSITE; PS00320; A4\_INTRA; PARTIAL.  
 KW Amyloid; Glycoprotein; Transmembrane.

FT	NON_TER	1	1	
FT	CHAIN	6	48	Beta-amyloid protein (Potential).
FT	DOMAIN	<1	33	Extracellular (Potential).
FT	TRANSMEM	34	57	Potential.
FT	NON_TER	57	57	

SQ SEQUENCE 57 AA; 6172 MW; 84209D88EBA82DFA CRC64;

Query Match 100.0%; Score 222; DB 1; Length 57;  
 Best Local Similarity 100.0%; Pred. No. 2.5e-21;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||  
 Db 6 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 48

## RESULT 2

### A4\_CANFA

ID A4\_CANFA STANDARD; PRT; 58 AA.  
 AC Q28280;  
 DT 01-NOV-1997 (Rel. 35, Created)  
 DT 01-NOV-1997 (Rel. 35, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)  
 DE Alzheimer's disease amyloid A4 protein homolog [Contains: Beta-amyloid  
 DE protein (Beta-APP) (A-beta)] (Fragment).  
 GN Name=APP;  
 OS Canis familiaris (Dog).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
 OX NCBI\_TaxID=9615;  
 RN [1]  
 RP SEQUENCE FROM N.A.



OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.  
 OX NCBI\_TaxID=9986;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Brain;  
 RX MEDLINE=92017079; PubMed=1656157;  
 RA Johnstone E.M., Chaney M.O., Norris F.H., Pascual R., Little S.P.;  
 RT "Conservation of the sequence of the Alzheimer's disease amyloid  
 RT peptide in dog, polar bear and five other mammals by cross-species  
 RT polymerase chain reaction analysis.";  
 RL Brain Res. Mol. Brain Res. 10:299-305(1991).  
 CC -!- FUNCTION: Functional neuronal receptor which couples to  
 CC intracellular signaling pathway through the GTP-binding protein  
 CC G(O) (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Type I membrane protein.  
 CC -!- SIMILARITY: Belongs to the APP family.  
 CC -----  
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration  
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 CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
 CC -----  
 DR EMBL; X56129; CAA39594.1; -.  
 DR HSSP; P08592; 1NMJ.  
 DR InterPro; IPR008155; A4\_APP.  
 DR InterPro; IPR001255; Beta-APP.  
 DR Pfam; PF03494; Beta-APP; 1.  
 DR PRINTS; PR00204; BETAAMYLOID.  
 DR PROSITE; PS00319; A4\_EXTRA; PARTIAL.  
 DR PROSITE; PS00320; A4\_INTRA; PARTIAL.  
 KW Amyloid; Glycoprotein; Transmembrane.  
 FT NON\_TER 1 1  
 FT CHAIN 6 48 Beta-amyloid protein (Potential).  
 FT DOMAIN <1 33 Extracellular (Potential).  
 FT TRANSMEM 34 57 Potential.  
 FT DOMAIN 58 >58 Cytoplasmic (Potential).  
 FT NON\_TER 58 58  
 SQ SEQUENCE 58 AA; 6300 MW; F434209D88EBA82D CRC64;

Query Match 100.0%; Score 222; DB 1; Length 58;  
 Best Local Similarity 100.0%; Pred. No. 2.6e-21;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||||  
 Db 6 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 48

#### RESULT 4

A4\_SHEEP  
 ID A4\_SHEEP STANDARD; PRT; 58 AA.  
 AC Q28757;  
 DT 01-NOV-1997 (Rel. 35, Created)

DT 01-NOV-1997 (Rel. 35, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)  
 DE Alzheimer's disease amyloid A4 protein homolog [Contains: Beta-amyloid  
 DE protein (Beta-APP) (A-beta)] (Fragment).  
 GN Name=APP;  
 OS Ovis aries (Sheep).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
 OC Caprinae; Ovis.  
 OX NCBI\_TaxID=9940;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Heart;  
 RX MEDLINE=92017079; PubMed=1656157;  
 RA Johnstone E.M., Chaney M.O., Norris F.H., Pascual R., Little S.P.;  
 RT "Conservation of the sequence of the Alzheimer's disease amyloid  
 RT peptide in dog, polar bear and five other mammals by cross-species  
 RT polymerase chain reaction analysis.";  
 RL Brain Res. Mol. Brain Res. 10:299-305(1991).  
 CC -!- FUNCTION: Functional neuronal receptor which couples to  
 CC intracellular signaling pathway through the GTP-binding protein  
 CC G(O) (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Type I membrane protein.  
 CC -!- SIMILARITY: Belongs to the APP family.  
 CC -----  
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 CC -----  
 DR EMBL; X56130; CAA39595.1; -.  
 DR HSSP; P08592; 1NMJ.  
 DR InterPro; IPR008155; A4\_APP.  
 DR InterPro; IPR001255; Beta-APP.  
 DR Pfam; PF03494; Beta-APP; 1.  
 DR PRINTS; PR00204; BETAAMYLOID.  
 DR PROSITE; PS00319; A4\_EXTRA; PARTIAL.  
 DR PROSITE; PS00320; A4\_INTRA; PARTIAL.  
 KW Amyloid; Glycoprotein; Transmembrane.  
 FT NON\_TER 1 1  
 FT CHAIN 6 48 Beta-amyloid protein (Potential).  
 FT DOMAIN <1 33 Extracellular (Potential).  
 FT TRANSMEM 34 57 Potential.  
 FT DOMAIN 58 >58 Cytoplasmic (Potential).  
 FT NON\_TER 58 58  
 SQ SEQUENCE 58 AA; 6300 MW; F434209D88EBA82D CRC64;

Query Match 100.0%; Score 222; DB 1; Length 58;  
 Best Local Similarity 100.0%; Pred. No. 2.6e-21;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||||  
 Db 6 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 48



RESULT 5

A4\_BOVIN

ID A4\_BOVIN STANDARD; PRT; 59 AA.  
AC Q28053;  
DT 01-NOV-1997 (Rel. 35, Created)  
DT 01-NOV-1997 (Rel. 35, Last sequence update)  
DT 05-JUL-2004 (Rel. 44, Last annotation update)  
DE Alzheimer's disease amyloid A4 protein homolog [Contains: Beta-amyloid  
DE protein (Beta-APP) (A-beta)] (Fragment).  
GN Name=APP;  
OS Bos taurus (Bovine).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
OC Bovinae; Bos.  
OX NCBI\_TaxID=9913;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Brain;  
RX MEDLINE=92017079; PubMed=1656157;  
RA Johnstone E.M., Chaney M.O., Norris F.H., Pascual R., Little S.P.;  
RT "Conservation of the sequence of the Alzheimer's disease amyloid  
RT peptide in dog, polar bear and five other mammals by cross-species  
RT polymerase chain reaction analysis."  
RL Brain Res. Mol. Brain Res. 10:299-305(1991).  
CC -!- FUNCTION: Functional neuronal receptor which couples to  
CC intracellular signaling pathway through the GTP-binding protein  
CC G(O) (By similarity).  
CC -!- SUBCELLULAR LOCATION: Type I membrane protein.  
CC -!- SIMILARITY: Belongs to the APP family.  
CC -----  
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CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
CC -----  
DR EMBL; X56124; CAA39589.1; -.  
DR EMBL; X56126; CAA39591.1; -.  
DR HSSP; P08592; 1NMJ.  
DR InterPro; IPR008155; A4\_APP.  
DR InterPro; IPR001255; Beta-APP.  
DR Pfam; PF03494; Beta-APP; 1.  
DR PRINTS; PR00204; BETAAMYLOID.  
DR PROSITE; PS00319; A4\_EXTRA; PARTIAL.  
DR PROSITE; PS00320; A4\_INTRA; PARTIAL.  
KW Amyloid; Glycoprotein; Transmembrane.  
FT NON\_TER 1 1  
FT CHAIN 7 49 Beta-amyloid protein (Potential).  
FT DOMAIN <1 34 Extracellular (Potential).  
FT TRANSMEM 35 58 Potential.  
FT DOMAIN 59 >59 Cytoplasmic (Potential).  
FT NON\_TER 59 59  
SQ SEQUENCE 59 AA; 6414 MW; F43469D488A2E12D CRC64;

QY 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
|||||

Db 7 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 49

Query Match 100.0%; Score 222; DB 2; Length 113;  
Best Local Similarity 100.0%; Pred. No. 5e-21;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA 43  
|||||  
Db 15 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA 57

```
ID  O93296      PRELIMINARY;          PRT;    534 AA.
AC  O93296;
DT  01-NOV-1998 (TrEMBLrel. 08, Created)
DT  01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
```

DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
 DE Amyloid protein (Fragment).  
 OS Gallus gallus (Chicken).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;  
 OC Gallus.  
 OX NCBI\_TaxID=9031;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=98337885; PubMed=9671674;  
 RA Barnes N.Y., Li L., Yoshikawa K., Schwartz L.M., Oppenheim R.W.,  
 RA Milligan C.E.;  
 RT "Increased production of amyloid precursor protein provides a  
 RT substrate for caspase-3 in dying motoneurons."  
 RL J. Neurosci. 18:5869-5880(1998).  
 DR EMBL; AF042098; AAC25052.1; -.  
 DR GO; GO:0016021; C:integral to membrane; IEA.  
 DR GO; GO:0005488; F:binding; IEA.  
 DR InterPro; IPR008155; A4\_APP.  
 DR InterPro; IPR008154; A4\_extra.  
 DR InterPro; IPR001255; Beta-APP.  
 DR Pfam; PF02177; A4\_EXTRA; 1.  
 DR Pfam; PF03494; Beta-APP; 1.  
 DR PRINTS; PR00203; AMYLOIDA4.  
 DR PRINTS; PR00204; BETAAMYLOID.  
 DR PROSITE; PS00319; A4\_EXTRA; 1.  
 DR PROSITE; PS00320; A4\_INTRA; 1.  
 FT NON\_TER 1 1  
 SQ SEQUENCE 534 AA; 60597 MW; FB53ECC2E66D4C92 CRC64;

Query Match 100.0%; Score 222; DB 2; Length 534;  
 Best Local Similarity 100.0%; Pred. No. 2.3e-20;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 ||||||||||||||||||||||||||||||||||||||||  
 Db 436 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 478

# RESULT 8

Q6RH29

ID Q6RH29 PRELIMINARY; PRT; 695 AA.  
 AC Q6RH29;  
 DT 05-JUL-2004 (TrEMBLrel. 27, Created)  
 DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)  
 DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)  
 DE Beta amyloid protein isoform APP695.  
 GN Name=beta APP;  
 OS Canis familiaris (Dog).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
 OX NCBI\_TaxID=9615;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Nakata M.;  
 RL Submitted (DEC-2003) to the EMBL/GenBank/DDBJ databases.  
 DR EMBL; AY498707; AAR97727.1; -.

DR InterPro; IPR008155; A4\_APP.  
 DR InterPro; IPR008154; A4\_extra.  
 DR InterPro; IPR001255; Beta-APP.  
 DR Pfam; PF02177; A4\_EXTRA; 1.  
 DR Pfam; PF03494; Beta-APP; 1.  
 DR PRINTS; PR00203; AMYLOIDA4.  
 DR PRINTS; PR00204; BETAAMYLOID.  
 DR SMART; SM00006; A4\_EXTRA; 1.  
 DR PROSITE; PS00319; A4\_EXTRA; 1.  
 DR PROSITE; PS00320; A4\_INTRA; 1.  
 SQ SEQUENCE 695 AA; 78649 MW; 718CA42A9F9E6C10 CRC64;

Query Match 100.0%; Score 222; DB 2; Length 695;  
 Best Local Similarity 100.0%; Pred. No. 3e-20;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||||  
 Db 597 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 639

# RESULT 9

Q9DGJ8

ID Q9DGJ8 PRELIMINARY; PRT; 695 AA.  
 AC Q9DGJ8;  
 DT 01-MAR-2001 (TrEMBLrel. 16, Created)  
 DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)  
 DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
 DE Beta-amyloid protein 695 isoform.  
 OS Gallus gallus (Chicken).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;  
 OC Gallus.  
 OX NCBI\_TaxID=9031;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Sarasa M., Rodolosse A., Sorribas V.;  
 RL Submitted (JUL-2000) to the EMBL/GenBank/DDBJ databases.  
 DR EMBL; AF289218; AAG00593.1; -.  
 DR HSSP; P08592; 1NMJ.  
 DR GO; GO:0016021; C:integral to membrane; IEA.  
 DR GO; GO:0005488; F:binding; IEA.  
 DR InterPro; IPR008155; A4\_APP.  
 DR InterPro; IPR008154; A4\_extra.  
 DR InterPro; IPR001255; Beta-APP.  
 DR Pfam; PF02177; A4\_EXTRA; 1.  
 DR Pfam; PF03494; Beta-APP; 1.  
 DR PRINTS; PR00203; AMYLOIDA4.  
 DR PRINTS; PR00204; BETAAMYLOID.  
 DR SMART; SM00006; A4\_EXTRA; 1.  
 DR PROSITE; PS00319; A4\_EXTRA; 1.  
 DR PROSITE; PS00320; A4\_INTRA; 1.  
 SQ SEQUENCE 695 AA; 78565 MW; F201ED02AEC86D95 CRC64;

Query Match 100.0%; Score 222; DB 2; Length 695;  
 Best Local Similarity 100.0%; Pred. No. 3e-20;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
|||||  
Db 597 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 639

## RESULT 10

```

AAR97727
ID   AAR97727      PRELIMINARY;          PRT;   695 AA.
AC   AAR97727;
DT   02-MAR-2004 (TrEMBLrel. 27, Created)
DT   02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
DT   02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
DE   Beta amyloid protein isoform APP695.
GN   BETA APP.
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Nakata M.;
RT   "Sequence analysis and chromosomal mapping of presenilin-1 and amyloid
RT   precursor protein genes in dogs.";
RL   Submitted (DEC-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY498707; AAR97727.1; -.
SQ   SEQUENCE      695 AA;  78649 MW;  718CA42A9F9E6C10 CRC64;

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Query Match 100.0%; Score 222; DB 2; Length 695;  
Best Local Similarity 100.0%; Pred. No. 3e-20;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
|||||  
Db 597 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 639

## RESULT 11

```

A4_SAISC
ID  A4_SAISC          STANDARD;      PRT;      751 AA.
AC  Q95241;
DT  15-DEC-1998 (Rel. 37, Created)
DT  15-DEC-1998 (Rel. 37, Last sequence update)
DT  05-JUL-2004 (Rel. 44, Last annotation update)
DE  Amyloid beta A4 protein precursor (APP) (Alzheimer's disease amyloid
DE  protein homolog) [Contains: Soluble APP-alpha (S-APP-alpha); Soluble
DE  APP-beta (S-APP-beta); C99; Beta-amyloid protein 42 (Beta-APP42);
DE  Beta-amyloid protein 40 (Beta-APP40); C83; P3(42); P3(40); Gamma-
DE  CTF(59) (Gamma-secretase C-terminal fragment 59); Gamma-CTF(57)
DE  (Gamma-secretase C-terminal fragment 57); Gamma-CTF(50) (Gamma-
DE  secretase C-terminal fragment 50); C31].
GN  Name=APP;
OS  Saimiri sciureus (Common squirrel monkey).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Cebinae; Saimiri.
OX  NCBI_TaxID=9521;
RN  [1]

```

RP SEQUENCE FROM N.A.  
 RC TISSUE=Kidney, and Liver;  
 RX MEDLINE=96108492; PubMed=8532114;  
 RA Levy E., Amorim A., Frangione B., Walker L.C.;  
 RT "Beta-amyloid precursor protein gene in squirrel monkeys with cerebral  
 RT amyloid angiopathy.";  
 RL Neurobiol. Aging 16:805-808(1995).  
 CC -!- FUNCTION: Functions as a cell surface receptor and performs  
 CC physiological functions on the surface of neurons relevant to  
 CC neurite growth, neuronal adhesion and axonogenesis. Involved in  
 CC cell mobility and transcription regulation through protein-protein  
 CC interactions (By similarity). Can promote transcription activation  
 CC through binding to APBB1/Tip60 and inhibit Notch signaling through  
 CC interaction with Numb (By similarity). Couples to apoptosis-  
 CC inducing pathways such as those mediated by G(O) and JIP (By  
 CC similarity). Inhibits G(O) alpha ATPase activity (By similarity).  
 CC Acts as a kinesin I membrane receptor, mediating the axonal  
 CC transport of beta-secretase and presenilin 1 (By similarity). May  
 CC be involved in copper homeostasis/oxidative stress through copper  
 CC ion reduction. In vitro, copper-metallated APP induces neuronal  
 CC death directly or is potentiated through Cu(II)-mediated low-  
 CC density lipoprotein oxidation (By similarity). Can regulate  
 CC neurite outgrowth through binding to components of the  
 CC extracellular matrix such as heparin and collagen I and IV (By  
 CC similarity). The splice isoforms that contain the BPTI domain  
 CC possess protease inhibitor activity (By similarity).  
 CC -!- FUNCTION: Beta-amyloid peptides are lipophilic metal chelators  
 CC with metal-reducing activity. Bind transient metals such as  
 CC copper, zinc and iron (By similarity).  
 CC -!- FUNCTION: The gamma-CTF peptides as well as the caspase-cleaved  
 CC peptides, including C31, are potent enhancers of neuronal  
 CC apoptosis (By similarity).  
 CC -!- SUBUNIT: Binds, via its C-terminal, to the PID domain of several  
 CC cytoplasmic proteins, including APBB family members, the APBA  
 CC family, MAPK8IP1, and SHC1, Numb and Dab1 (By similarity). Binding  
 CC to Dab1 inhibits its serine phosphorylation (By similarity). Also  
 CC interacts with GPCR-like protein BPP, FPRL1, APPBP1, IB1, KNS2  
 CC (via its TPR domains) (By similarity), APPBP2 (via BaSS) and DDB1.  
 CC In vitro, it binds MAPT via the MT-binding domains (By  
 CC similarity). Associates with microtubules in the presence of ATP  
 CC and in a kinesin-dependent manner (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Type I membrane protein. Cell surface  
 CC protein that rapidly becomes internalized via clathrin-coated  
 CC pits. During maturation, the immature APP (N-glycosylated in the  
 CC endoplasmic reticulum) moves to the Golgi complex where complete  
 CC maturation occurs (O-glycosylated and sulfated). After alpha-  
 CC secretase cleavage, soluble APP is released into the extracellular  
 CC space and the C-terminal is internalized to endosomes and  
 CC lysosomes. Some APP accumulates in secretory transport vesicles  
 CC leaving the late Golgi compartment and returns to the cell  
 CC surface. Gamma-CTF(59) peptide is located to both the cytoplasm  
 CC and nuclei of neurons (By similarity).  
 CC -!- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Comment=Additional isoforms seem to exist;  
 CC Name=APP770;  
 CC IsoId=Q95241-1; Sequence=Displayed;

CC Name=APP695;  
 CC IsoId=Q95241-2; Sequence=Not described;  
 CC -!- DOMAIN: The basolateral sorting signal (BaSS) is required for  
 CC sorting of membrane proteins to the basolateral surface of  
 CC epithelial cells (By similarity).  
 CC -!- DOMAIN: The NPXY sequence motif found in many tyrosine-  
 CC phosphorylated proteins is required for the specific binding of  
 CC the PID domain. However additional amino acids either N- or C-  
 CC terminal to the NPXY motif are often required for complete  
 CC interaction. The PID domain-containing proteins which bind APP  
 CC require the YENPTY motif for full interaction. These interactions  
 CC are independent of phosphorylation on the terminal tyrosine  
 CC residue. The NPXY site is also involved in clathrin-mediated  
 CC endocytosis (By similarity).  
 CC -!- PTM: Proteolytically processed under normal cellular conditions.  
 CC Cleavage by alpha-secretase or alternatively by beta-secretase  
 CC leads to generation and extracellular release of soluble APP  
 CC peptides, S-APP-alpha and S-APP-beta, respectively, and the  
 CC retention of corresponding membrane-anchored C-terminal fragments,  
 CC C83 and C99. Subsequent processing of C83 by gamma-secretase  
 CC yields P3 peptides. This is the major secretory pathway and is  
 CC nonamyloidogenic. Alternatively, presenilin/nicastrin-mediated  
 CC gamma-secretase processing of C99 releases the amyloid beta  
 CC proteins, amyloid-beta 40 (Abeta40) and amyloid-beta 42 (Abeta42),  
 CC major components of amyloid plaques, and the cytotoxic C-terminal  
 CC fragments, gamma-CTF(50), gamma-CTF(57) and gamma-CTF(59) (By  
 CC similarity).  
 CC -!- PTM: Proteolytically cleaved by caspases during neuronal apoptosis  
 CC (By similarity). Cleavage at Asp-720 by either caspase-3, -8 or -9  
 CC results in the production of the neurotoxic C31 peptide and the  
 CC increased production of beta-amyloid peptides (By similarity).  
 CC -!- PTM: N- and O-glycosylated (By similarity).  
 CC -!- PTM: Phosphorylation in the C-terminal on tyrosine, threonine and  
 CC serine residues is neuron-specific. Phosphorylation can affect APP  
 CC processing, neuronal differentiation and interaction with other  
 CC proteins (By similarity).  
 CC -!- MISCELLANEOUS: Chelation of metal ions, notably copper, iron and  
 CC zinc, can induce histidine-bridging between beta-amyloid molecules  
 CC resulting in beta-amyloid-metal aggregates (By similarity).  
 CC Extracellular zinc-binding increases binding of heparin to APP and  
 CC inhibits collagen-binding (By similarity).  
 CC -!- SIMILARITY: Belongs to the APP family.  
 CC -!- SIMILARITY: Contains 1 BPTI/Kunitz inhibitor domain.  
 CC -----  
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 CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
 CC -----  
 DR EMBL; S81024; AAD14347.1; -.  
 DR HSSP; P08592; INMJ.  
 DR InterPro; IPR008155; A4\_APP.  
 DR InterPro; IPR008154; A4\_extra.  
 DR InterPro; IPR001255; Beta-APP.

DR InterPro; IPR002223; Prot\_Inh\_Kunz-m.  
 DR Pfam; PF02177; A4\_EXTRA; 1.  
 DR Pfam; PF03494; Beta-APP; 1.  
 DR Pfam; PF00014; Kunitz\_BPTI; 1.  
 DR PRINTS; PR00203; AMYLOIDA4.  
 DR PRINTS; PR00759; BASICPTASE.  
 DR PRINTS; PR00204; BETAAMYLOID.  
 DR ProDom; PD000222; Kunitz\_BPTI; 1.  
 DR SMART; SM00006; A4\_EXTRA; 1.  
 DR SMART; SM00131; KU; 1.  
 DR PROSITE; PS00319; A4\_EXTRA; 1.  
 DR PROSITE; PS00320; A4\_INTRA; 1.  
 DR PROSITE; PS00280; BPTI\_KUNITZ\_1; 1.  
 DR PROSITE; PS50279; BPTI\_KUNITZ\_2; 1.  
 KW Alternative splicing; Amyloid; Apoptosis; Cell adhesion; Coated pits;  
 KW Copper; Endocytosis; Glycoprotein; Heparin-binding; Iron;  
 KW Metal-binding; Phosphorylation; Proteoglycan;  
 KW Serine protease inhibitor; Signal; Transmembrane; Zinc.  
 FT SIGNAL 1 17 By similarity.  
 FT CHAIN 18 751 Amyloid beta A4 protein.  
 FT CHAIN 18 668 Soluble APP-alpha (Potential).  
 FT CHAIN 18 652 Soluble APP-beta (Potential).  
 FT CHAIN 653 751 C99 (Potential).  
 FT CHAIN 653 694 Beta-amyloid protein 42 (Potential).  
 FT CHAIN 653 692 Beta-amyloid protein 40 (Potential).  
 FT CHAIN 669 751 C83 (Potential).  
 FT CHAIN 669 694 P3(42) (Potential).  
 FT CHAIN 669 692 P3(40) (Potential).  
 FT CHAIN 693 751 Gamma-CTF(59) (Potential).  
 FT CHAIN 695 751 Gamma-CTF(57) (Potential).  
 FT CHAIN 702 751 Gamma-CTF(50) (Potential).  
 FT CHAIN 721 751 C31 (Potential).  
 FT DOMAIN 18 680 Extracellular (Potential).  
 FT TRANSMEM 681 704 Potential.  
 FT DOMAIN 705 751 Cytoplasmic (Potential).  
 FT DOMAIN 96 110 Heparin-binding (By similarity).  
 FT DOMAIN 181 188 ZINC-BINDING (BY SIMILARITY).  
 FT DOMAIN 291 341 BPTI/Kunitz inhibitor.  
 FT DOMAIN 316 344 Heparin-binding (By similarity).  
 FT DOMAIN 363 428 Heparin-binding (By similarity).  
 FT DOMAIN 504 521 Collagen-binding (By similarity).  
 FT DOMAIN 713 732 Interaction with G(o)-alpha (By similarity).  
 FT  
 FT DOMAIN 230 260 Asp/Glu-rich (acidic).  
 FT DOMAIN 274 280 Poly-Thr.  
 FT SITE 144 144 Required for copper(II) reduction (By similarity).  
 FT  
 FT SITE 301 302 Reactive bond.  
 FT SITE 652 653 Cleavage (by beta-secretase) (By similarity).  
 FT  
 FT SITE 653 654 Cleavage (by caspase-6) (By similarity).  
 FT SITE 668 669 Cleavage (by alpha-secretase) (By similarity).  
 FT  
 FT SITE 685 685 Involved in free radical propagation (By similarity).  
 FT  
 FT SITE 687 687 Involved in oxidative reactions (By similarity).  
 FT



FT	SITE	692	693	Cleavage (by gamma-secretase; site 1) (By
FT				similarity).
FT	SITE	694	695	Cleavage (by gamma-secretase; site 2) (By
FT				similarity).
FT	SITE	701	702	Cleavage (by gamma-secretase; site 3) (By
FT				similarity).
FT	SITE	705	715	Basolateral sorting signal (By
FT				similarity).
FT	SITE	720	721	Cleavage (by caspases-3, -6, -8 or -9)
FT				(By similarity).
FT	SITE	738	741	Endocytosis signal.

Query Match 100.0%; Score 222; DB 1; Length 751;  
 Best Local Similarity 100.0%; Pred. No. 3.3e-20;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||||  
 Db 653 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 695

# RESULT 12

Q6RH28

ID Q6RH28 PRELIMINARY; PRT; 751 AA.  
 AC Q6RH28;  
 DT 05-JUL-2004 (TrEMBLrel. 27, Created)  
 DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)  
 DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)  
 DE Beta amyloid protein isoform APP751.  
 GN Name=beta APP;  
 OS Canis familiaris (Dog).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
 OX NCBI\_TaxID=9615;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Nakata M.;  
 RL Submitted (DEC-2003) to the EMBL/GenBank/DDBJ databases.  
 CC -!- SIMILARITY: Contains 1 BPTI/Kunitz inhibitor domain.  
 DR EMBL; AY498708; AAR97728.1; -.  
 DR InterPro; IPR008155; A4\_APP.  
 DR InterPro; IPR008154; A4\_extra.  
 DR InterPro; IPR001255; Beta-APP.  
 DR InterPro; IPR002223; Prot\_Inh\_Kunz-m.  
 DR Pfam; PF02177; A4\_EXTRA; 1.  
 DR Pfam; PF03494; Beta-APP; 1.  
 DR Pfam; PF00014; Kunitz\_BPTI; 1.  
 DR PRINTS; PR00203; AMYLOIDA4.  
 DR PRINTS; PR00759; BASICPTASE.  
 DR PRINTS; PR00204; BETAAMYLOID.  
 DR ProDom; PD000222; Prot\_Inh\_Kunz-m; 1.  
 DR SMART; SM00006; A4\_EXTRA; 1.  
 DR SMART; SM00131; KU; 1.  
 DR PROSITE; PS00319; A4\_EXTRA; 1.  
 DR PROSITE; PS00320; A4\_INTRA; 1.  
 DR PROSITE; PS00280; BPTI\_KUNITZ\_1; 1.  
 DR PROSITE; PS50279; BPTI\_KUNITZ\_2; 1.

SQ SEQUENCE 751 AA; 84832 MW; 7541A947B46DA5A4 CRC64;

Query Match 100.0%; Score 222; DB 2; Length 751;  
Best Local Similarity 100.0%; Pred. No. 3.3e-20;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
|||||  
Db 653 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 695

RESULT 13

Q9DGJ7

ID Q9DGJ7 PRELIMINARY; PRT; 751 AA.  
AC Q9DGJ7;  
DT 01-MAR-2001 (TrEMBLrel. 16, Created)  
DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)  
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
DE Beta-amyloid protein 751 isoform.  
OS Gallus gallus (Chicken).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;  
OC Gallus.  
OX NCBI\_TaxID=9031;  
RN [1]  
RP SEQUENCE FROM N.A.  
RA Sarasa M., Rodoloso A., Sorribas V.;  
RL Submitted (JUL-2000) to the EMBL/GenBank/DDBJ databases.  
CC -!- SIMILARITY: Contains 1 BPTI/Kunitz inhibitor domain.  
DR EMBL; AF289219; AAG00594.1; -.  
DR HSSP; P08592; 1NMJ.  
DR GO; GO:0016021; C:integral to membrane; IEA.  
DR GO; GO:0005488; F:binding; IEA.  
DR GO; GO:0004867; F:serine-type endopeptidase inhibitor activity; IEA.  
DR InterPro; IPR008155; A4\_APP.  
DR InterPro; IPR008154; A4\_extra.  
DR InterPro; IPR001255; Beta-APP.  
DR InterPro; IPR002223; Prot\_Inh\_Kunz-m.  
DR Pfam; PF02177; A4\_EXTRA; 1.  
DR Pfam; PF03494; Beta-APP; 1.  
DR Pfam; PF00014; Kunitz\_BPTI; 1.  
DR PRINTS; PR00203; AMYLOIDA4.  
DR PRINTS; PR00759; BASICPTASE.  
DR PRINTS; PR00204; BETAAMYLOID.  
DR ProDom; PD000222; Prot\_Inh\_Kunz-m; 1.  
DR SMART; SM00006; A4\_EXTRA; 1.  
DR SMART; SM00131; KU; 1.  
DR PROSITE; PS00319; A4\_EXTRA; 1.  
DR PROSITE; PS00320; A4\_INTRA; 1.  
DR PROSITE; PS00280; BPTI\_KUNITZ\_1; 1.  
DR PROSITE; PS50279; BPTI\_KUNITZ\_2; 1.  
SQ SEQUENCE 751 AA; 84705 MW; E78E9413A8033D84 CRC64;

Query Match 100.0%; Score 222; DB 2; Length 751;  
Best Local Similarity 100.0%; Pred. No. 3.3e-20;  
Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||  
 Db 653 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 695

RESULT 14

AAR97728

ID AAR97728 PRELIMINARY; PRT; 751 AA.  
 AC AAR97728;  
 DT 02-MAR-2004 (TrEMBLrel. 27, Created)  
 DT 02-MAR-2004 (TrEMBLrel. 27, Last sequence update)  
 DT 02-MAR-2004 (TrEMBLrel. 27, Last annotation update)  
 DE Beta amyloid protein isoform APP751.  
 GN BETA APP.  
 OS Canis familiaris (Dog).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
 OX NCBI\_TaxID=9615;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Nakata M.;  
 RT "Sequence analysis and chromosomal mapping of presenilin-1 and amyloid  
 RT precursor protein genes in dogs."  
 RL Submitted (DEC-2003) to the EMBL/GenBank/DDBJ databases.  
 DR EMBL; AY498708; AAR97728.1; -.  
 SQ SEQUENCE 751 AA; 84832 MW; 7541A947B46DA5A4 CRC64;

Query Match 100.0%; Score 222; DB 2; Length 751;  
 Best Local Similarity 100.0%; Pred. No. 3.3e-20;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 |||  
 Db 653 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 695

RESULT 15

AAH65529

ID AAH65529 PRELIMINARY; PRT; 751 AA.  
 AC AAH65529;  
 DT 02-MAR-2004 (TrEMBLrel. 27, Created)  
 DT 02-MAR-2004 (TrEMBLrel. 27, Last sequence update)  
 DT 02-MAR-2004 (TrEMBLrel. 27, Last annotation update)  
 DE Amyloid beta A4 protein, isoform b.  
 GN APP.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
 OX NCBI\_TaxID=9606;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Eye;  
 RX MEDLINE=22388257; PubMed=12477932;  
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
 RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,  
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,  
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
 RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Fahey J., Helton E., Kettelman M., Madan A., Rodrigues S., Sanchez A.,  
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,  
 RA Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,  
 RA Jones S.J., Marra M.A.;  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 RT and mouse cDNA sequences.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Eye;  
 RA Strausberg R.;  
 RL Submitted (JAN-2004) to the EMBL/GenBank/DDBJ databases.  
 DR EMBL; BC065529; AAH65529.1; -.  
 SQ SEQUENCE 751 AA; 84818 MW; C987C557C5A3714E CRC64;

Query Match 100.0%; Score 222; DB 2; Length 751;  
 Best Local Similarity 100.0%; Pred. No. 3.3e-20;  
 Matches 43; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 43  
 ||||||||||||||||||||||||||||||||||||||||  
 Db 653 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIAT 695

Search completed: November 19, 2004, 16:58:25  
 Job time : 230.553 secs